

# Sales Guide

セールsgaido (ISAHAYA Discrete Catalogue)

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小信号トランジスタ / ダイオード / アナログIC  
Small Signal Transistors / Diodes / Analog ICs

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### ＝記号＝

#### 前マーク

- ☆:ミニ外装 Mini Package (SC-59)(3216)
- ※:スーパーミニ外装 Super Mini Package (SC-70)(2125)
- ★:ウルTRASーパーミニ外装 Ultra Super Mini Package SC-75A(1608)
- 十:チップパワー外装 Chip Power Package (SC-62)
- ◎:マイクロTR Micro (TO-92S)

#### 後ろマーク

- \* :ガラエポ®基板実装時
- ・ : 静電破壊耐量向上品
- : 開発中(Developing)

# 形名の構成

## Structure of Item-Code

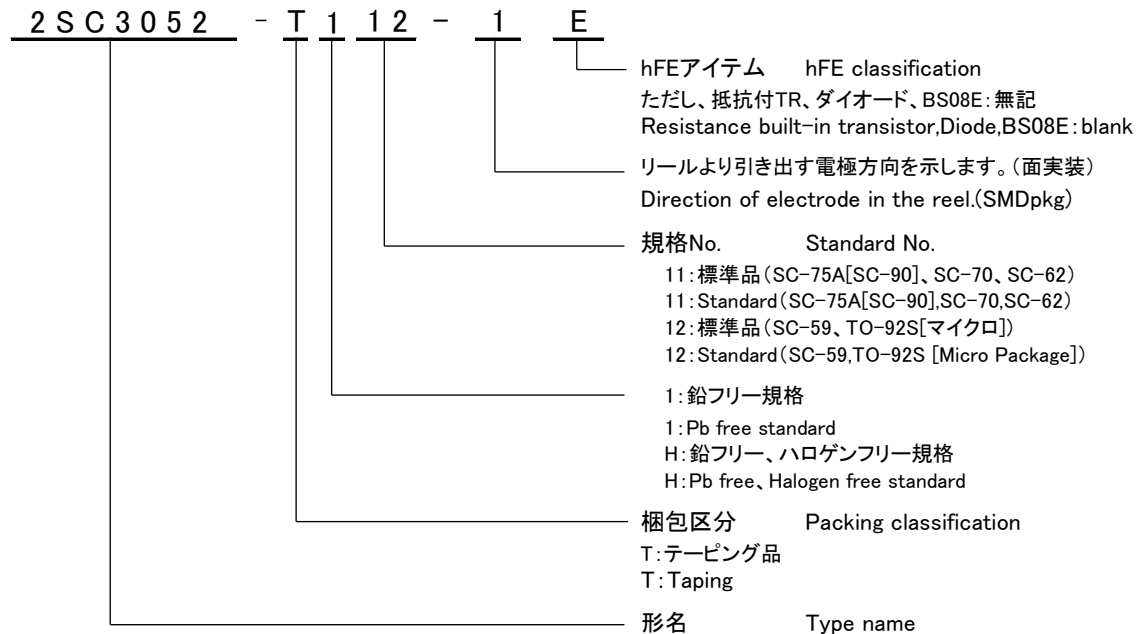
### 形名 Item-Code

トランジスタの形名は、JIS(日本工業規格)に基づき、JEITA(電子情報技術産業協会)に登録したものと、イサハヤ電子独自の名称からなるものがございます。

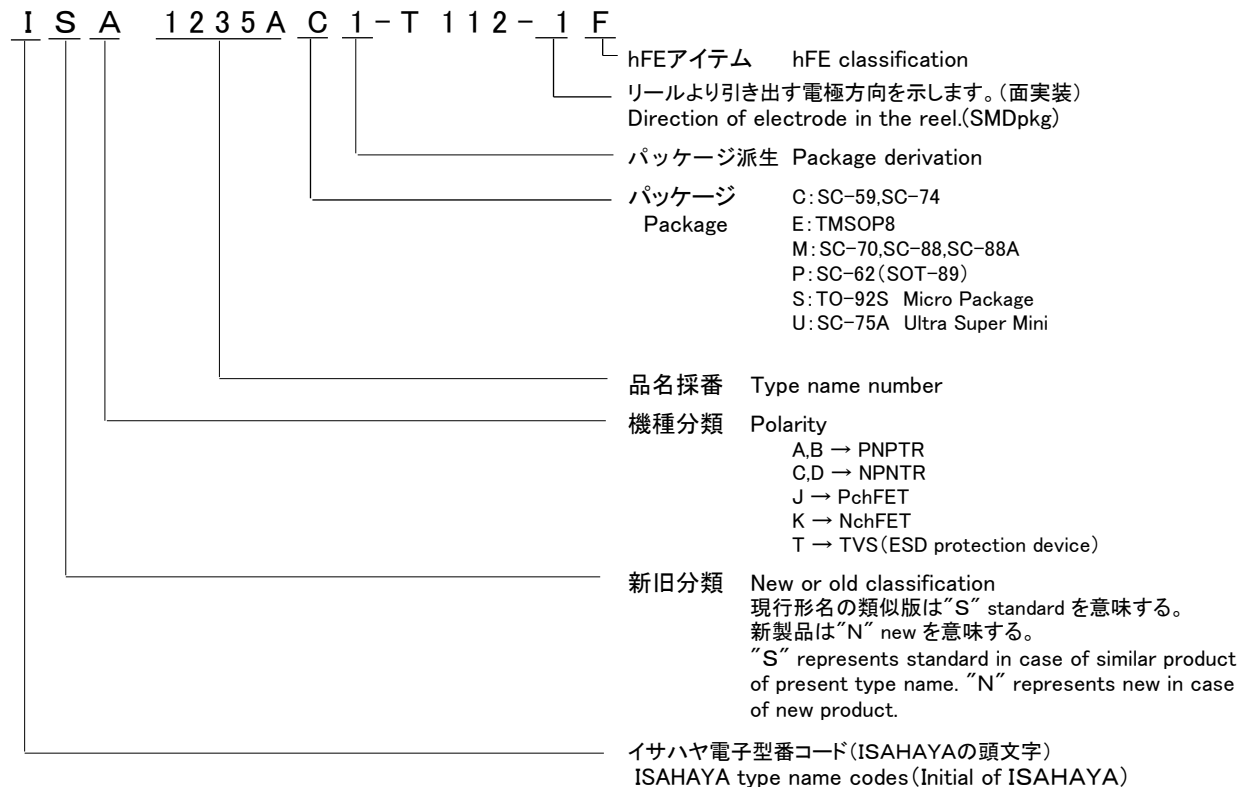
There is the item-code of the transistor which is based on JIS (Japanese Industrial Standards) decision and registered with JEITA (Japan Electronics and Information Technology Industries Association), and the item-code which consists of the ISAHAYA unique name.

トランジスタ、小信号ダイオードデータブックに記載されている品種をご注文される場合、次のように形名をご指定ください。

In case of ordering for products which are listed at the small signal transistor and diode data book, specify the type name as follows.



### イサハヤ電子独自形名1 ISAHAYA Item-Code 1



# 形名の構成

## Structure of Item-Code

### イサハヤ電子独自形名2 ISAHAYA Item-Code 2

RT 1 P 441 C - T 1 12 - 1

リールより引き出す電極方向を示します。 Direction of electrode in the reel.

規格No. Standard No.

11: SC-62(SOT-89),SC-70,SC-75A,SC-88,SC-88A,TMSOP8

12: SC-59,SC-74,TO-92S(MICR)

1: 鉛フリー規格 Pb free standard

H: 鉛フリー、ハロゲンフリー規格 Pb free & Halogen free standard

T: テーピング Taping

パッケージ Package C: SC-59,SC-74  
E: TMSOP8  
M: SC-70,SC-88,SC-88A  
P: SC-62(SOT-89)  
S: TO-92S Micro Package  
U: SC-75A Ultra Super Mini

品名採番 Type name number

抵抗付TR Resistance built-in transistor

4 4 1

抵抗比率(R2/R1) Resistance ratio(R2/R1)

0:  $\infty$ (R2=Open) 1:1 2:2.2 4:4.7 6:10 7:22

B: R2 only H: 1/2.2(Half) Q: 1/4.7 or 10/47(Quarter)

R1の乗数 Multiplier of resistance R1

3:  $\times 10^3$  4:  $\times 10^4$

R1の抵抗値置き数 Significant value of resistance R2 with fractions truncated

1:1 2:2.2 4:4.7

極性、構造、プロセス Polarity,Structure、Process

P: PNP抵抗入りTr PNP Resistance built-in transistor

N: NPN抵抗入りTr NPN Resistance built-in transistor

A: PNP Bip  $\times 2$

C: NPN Bip  $\times 2$

H: アナログIC、リニアIC Analog IC, Linear IC

J: Pch MOS-FET  $\times 2$

K: Nch MOS-FET  $\times 2$

T: NPN RTr + PNP RTr

U: Nch MOS-FET + Pch MOS-FET

W: NPN Bip + PNP Bip

X: Mute RTr  $\times 2$

Y: PNP RTr + Mute RTr  $\times 2$

品種 Category

1: 抵抗付Tr100mA or 1Aクラス Resistance built-in transistor 100mA or 1A class

2: 複合Tr 5PIN Composite Transistors 5PIN

3: 複合Tr 6PIN Composite Transistors 6PIN

5: 抵抗付Tr500mAクラス Resistance built-in transistor 500mA class

6: ミュートTr600mA Muting transistor 600mA class

8: アナログIC Analog IC

9: リニアIC Linear IC

A: 抵抗付ミュートTr Resistance built-in Muting transistor

B: 抵抗付Tr1Aクラス Resistance built-in transistor 1A class

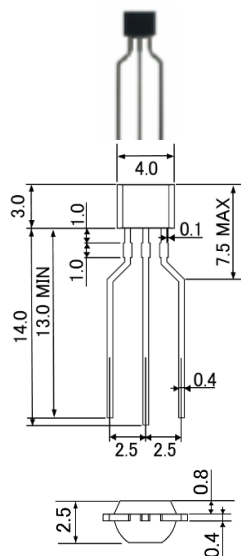
D: 異種複合製品(異種複合Tr) Composite different Device(Composite different Transistor)

E: 異種複合製品(Ze入り複合Tr) Composite different Device(Composite Zener diode and Transistor)

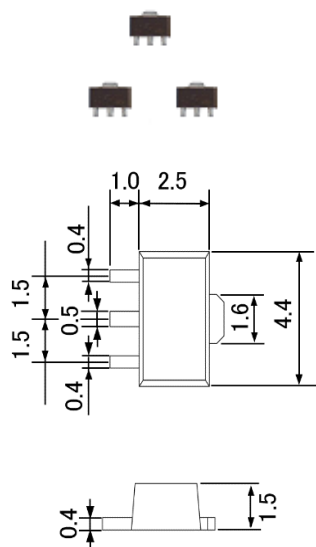
G: Ze入り1Aクラス抵抗付Tr Zener diode and resistance built-in transistor 1A class

## Dimensions of Discrete Device

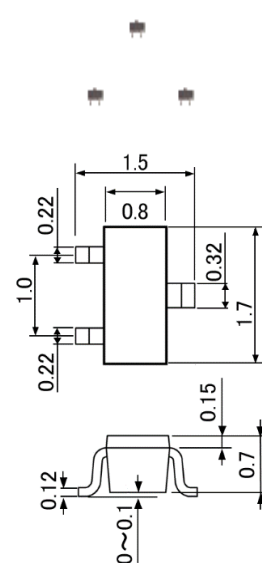
◎: マイクロ Micro  
(TO-92S SC-72)



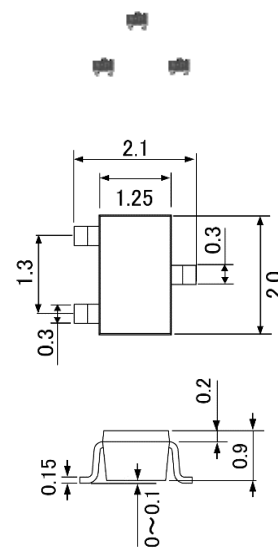
+ : SC-62(SOT-89)



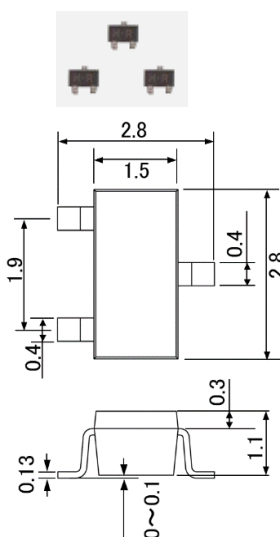
★: SC-75A(1608)



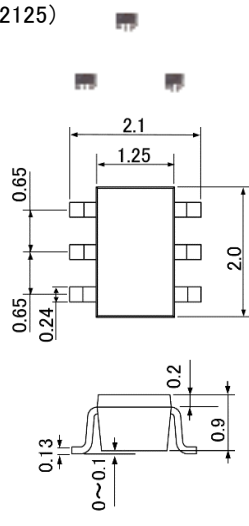
※: SC-70(2125)



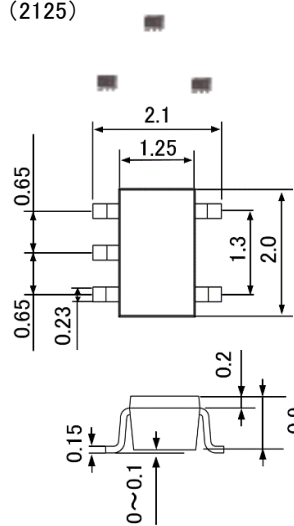
☆: SC-59(3216)



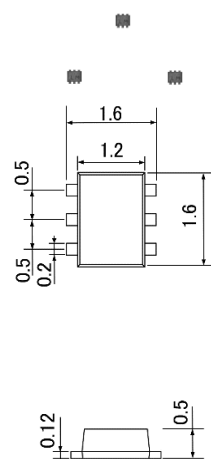
SC-88  
(SC-70 6pin)  
(2125)



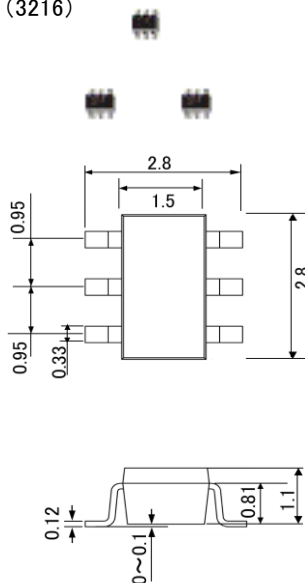
SC-88A  
(SC-70 5pin)  
(2125)



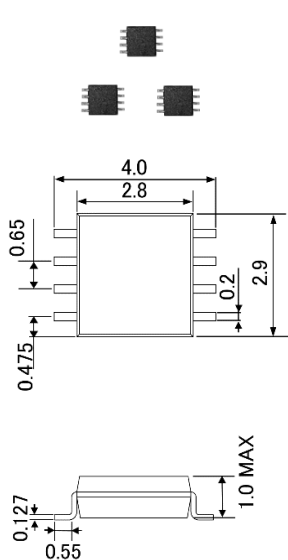
USM6F



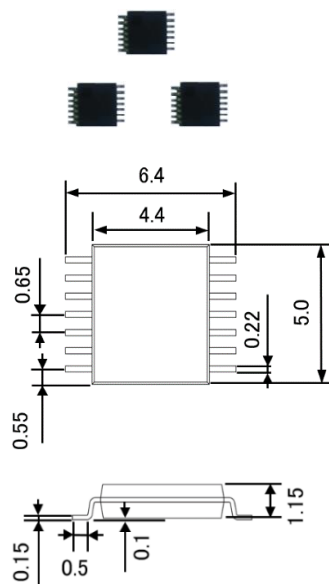
SC-74  
(SC-59 6pin)  
(3216)



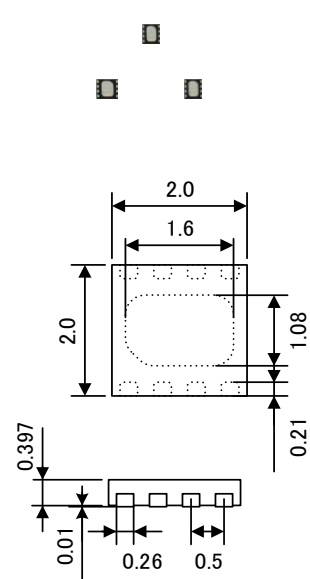
TMSOP8



SSOP14



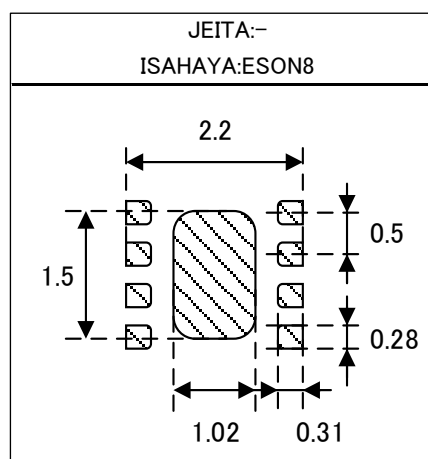
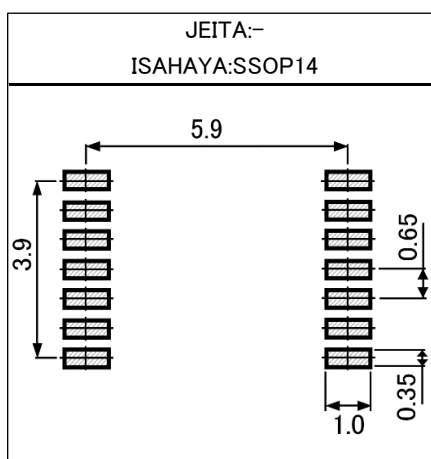
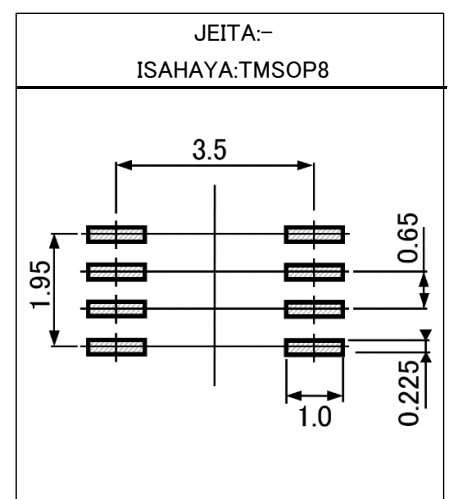
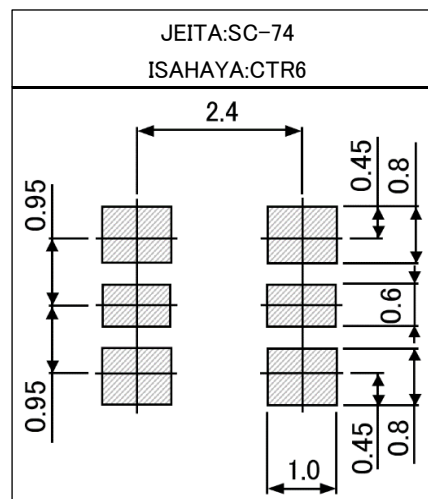
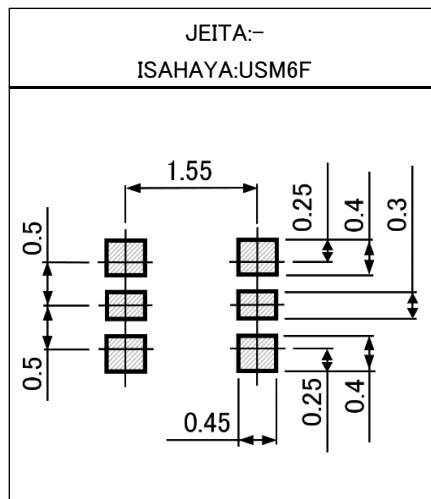
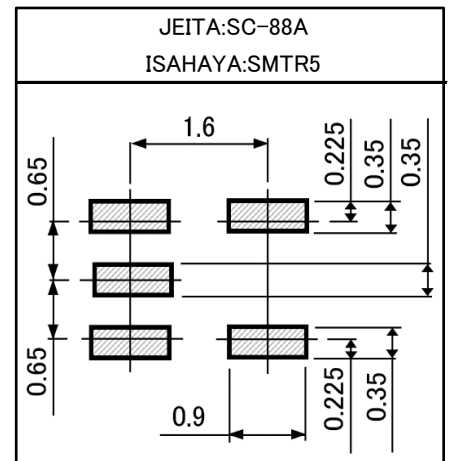
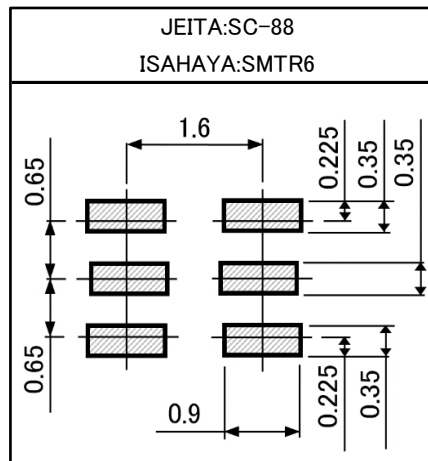
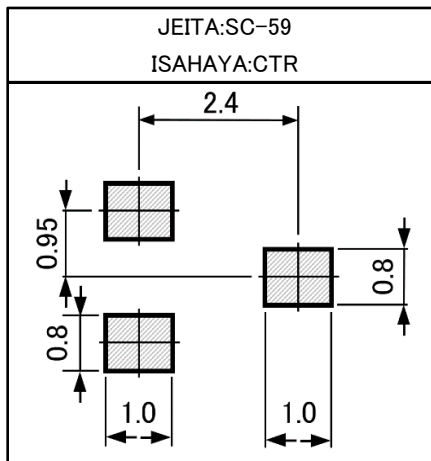
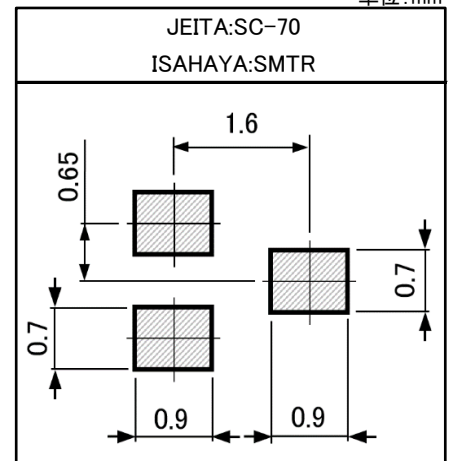
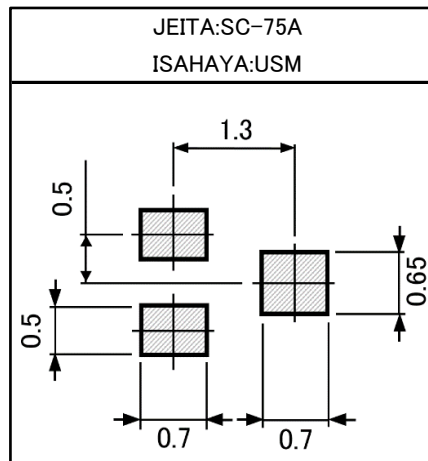
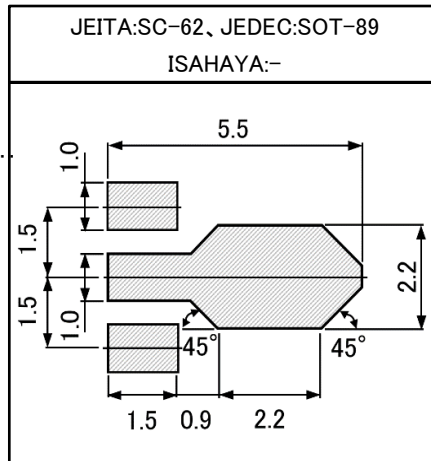
ESON8



# 推奨ランドパターン

## Recommended Mount Pad

単位:mm



# 特性早見表

## Characteristic Map

### イサハヤ電子トランジスタ ISAHAYA TRANSISTORS

| <div>V<sub>CEO</sub><br/>(V)<br/>I<sub>c</sub><br/>(mA)</div> | 5                                                              | 10~12                            | 16                                    | 20                                                                   | 25                                                   | 32~40                | 50                                                                                                                  | 60                                                                            | 80                         | 100                                                      | 140<br>~160                                                                                                           | 200                     | 250                                          | 300                                                      | 400          |
|---------------------------------------------------------------|----------------------------------------------------------------|----------------------------------|---------------------------------------|----------------------------------------------------------------------|------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------|----------------------------------------------------------|--------------|
| 30                                                            |                                                                |                                  |                                       |                                                                      | ◎2SC5397<br>☆2SC3053<br>※2SC4258<br>★2SC5384         |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 50                                                            | ☆2SC5634<br>(f <sub>T</sub> =8GHz typ)<br>※2SC5635<br>★2SC5636 | ☆2SC5619<br>※2SC5620<br>★2SC5621 |                                       | ☆2SC5477<br>(f <sub>T</sub> =1.1GHz typ)<br>※2SC5626                 |                                                      |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              | ☆INA6002AC1<br>☆INC6002AC1                               |              |
| 100                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      | ◎ISA1995AS1<br>◎2SC5398<br>★2SA1989<br>★ISA1989AU1                                                                  |                                                                               |                            |                                                          | ☆INA6006AC1<br>☆INC6006AC1<br>+INA6006AP1<br>+INC6006AP1<br>◎INA6006AS1<br>◎INC6006AS1●<br>※INA6017AM1<br>※INC6017AM1 | +2SC5210<br>◎ISC3249AS1 | ☆2SA2026<br>+2SA2027<br>☆2SC5625<br>+2SC5633 | +INA6005AP1<br>+INC6005AP1<br>☆INA6005AC1<br>☆INC6005AC1 |              |
| 125                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      |                                                                                                                     | ☆2SC5814<br>※2SC5815                                                          |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 150                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      | ☆ISA1530AC1<br>※ISA1603AM1                                                                                          |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 200                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      | ◎ISA1993AS1<br>◎2SC5395<br>☆ISA1235AC1<br>☆2SC3052<br>☆2SC3928A<br>※ISA1602AM1<br>※2SC4154<br>※2SC4155A<br>★2SC5383 |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          | ◎INA6012AS1● |
| 400                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      | ☆2SA1366<br>☆2SC3441<br>+2SA1945<br>+2SC5211<br>◎ISA1399AS1<br>◎ISC3581AS1                                          |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 500                                                           |                                                                |                                  |                                       |                                                                      |                                                      |                      |                                                                                                                     | ☆2SA2166<br>※ISA2166AM1                                                       | ☆INA1001AC1<br>☆INC1001AC1 | +2SA1368<br>+2SC3438<br>◎ISA1284AS1<br>◎ISC3244AS1       |                                                                                                                       |                         |                                              |                                                          |              |
| 600                                                           |                                                                |                                  |                                       | ☆INC2002AC1<br>※INC2002AM1<br>★INC2002AU1                            |                                                      | ☆2SC6046<br>※2SC6120 |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 650                                                           |                                                                |                                  |                                       | ☆2SC6053<br>☆2SA2188<br>※ISC6053AM1<br>※ISA2188AM1                   |                                                      |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 700                                                           |                                                                |                                  |                                       | ◎2SA2002<br>◎2SC5485<br>☆2SA1365<br>☆2SC3440<br>+2SA1946<br>+2SC5212 |                                                      |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 1A                                                            |                                                                |                                  |                                       |                                                                      | +2SA1947<br>+2SC5214<br>◎ISB1035AS1<br>◎ISD1447AS1   |                      | +2SA1944<br>+2SC5209<br>+INA5001AP1<br>☆INA5001AC1<br>◎ISA1287AS1<br>◎ISC3247AS1                                    | ◎2SC5482<br>+2SA1364<br>+2SC3444<br>+INC5001AP1<br>+INC5001AC1<br>◎ISA1283AS1 |                            | ☆INC6001AC1<br>☆INA6001AC1<br>+INC6001AP1<br>+INA6001AP1 | ☆INC6008AC1<br>+INC6008AP1                                                                                            |                         |                                              |                                                          |              |
| 1.5A                                                          |                                                                |                                  |                                       | +2SA1369<br>◎ISA1286AS1                                              | ◎2SC5484<br>+2SC3439<br>☆INA5005AC1●<br>☆INC5005AC1● |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 2A                                                            |                                                                |                                  | +2SA1363<br>+2SC3443<br>◎ISC3242AS1-G | ◎2SA1998<br>◎ISC3242AS1-EF                                           |                                                      |                      | ☆INA5006AC1                                                                                                         | +2SC4357<br>+2SA2167<br>◎ISC4356AS1                                           |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 3A                                                            |                                                                |                                  |                                       |                                                                      |                                                      |                      | ☆INC5006AC1                                                                                                         | +INA5002AP1<br>+INC5002AP1<br>☆INA5002AC1<br>☆INC5002AC1●                     |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 5A                                                            |                                                                |                                  |                                       |                                                                      |                                                      |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |
| 6A                                                            |                                                                |                                  |                                       |                                                                      |                                                      |                      |                                                                                                                     |                                                                               |                            |                                                          |                                                                                                                       |                         |                                              |                                                          |              |

(注1) 形名前の記号は外形を示します。(4頁参照) (note1) The sign before the product name stands for an external form.( page 4 reference)

☆: ミニ外装 Mini Package (SC-59)(3216) ※: スーパーミニ外装 Super Mini Package (SC-70)(2125) ★: ウルトラスーパーミニ外装 Ultra Super Mini Package SC-75A(1608)

◎: マイクロTR Micro (TO-92S) +: チップパワー外装 Chip Power Package (SC-62)

後ろマーク: ●: 開発中(Developing) ※: ガラエポ基板実装時 ∴: 静電破壊耐量向上品

# 特性早見表

## Characteristic Map

### イサハヤ電子トランジスタ ISAHAYA TRANSISTORS

| パッケージ           | SC-75A  |            | SC-70      |                     | SC-59       |                     | マイクロ(TO-92S) |             | SC-62                 |                       | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(A) |
|-----------------|---------|------------|------------|---------------------|-------------|---------------------|--------------|-------------|-----------------------|-----------------------|-------------------------|-----------------------|
| 用途              | PNP     | NPN        | PNP        | NPN                 | PNP         | NPN                 | PNP          | NPN         | PNP                   | NPN                   |                         |                       |
| 高周波<br>(8GHz)   |         | 2SC5636    |            | 2SC5635             |             | 2SC5634             |              |             |                       |                       | 6                       | 0.05                  |
| 高周波<br>(4.5GHz) |         | 2SC5621    |            | 2SC5620             |             | 2SC5619             |              |             |                       |                       | 12                      | 0.05                  |
| 一般増幅            |         |            |            |                     |             |                     |              | ISC3242AS1  | 2SA1363               | 2SC3443               | 16                      | 2.00                  |
| 高周波<br>(1.1GHz) |         |            |            | 2SC5626             |             | 2SC5477             |              |             |                       |                       | 20                      | 0.05                  |
| ミューティング         |         | INC2002AU1 |            | INC2002AM1          |             | INC2002AC1          |              |             |                       |                       | 20                      | 0.60                  |
| 一般増幅            |         |            | ISA2188AM1 | ISC6053AM1          | 2SA2188     | 2SC6053             |              |             |                       |                       | 20                      | 0.65                  |
|                 |         |            |            |                     | 2SA1365     | 2SC3440             | 2SA2002      | 2SC5485     | 2SA1946               | 2SC5212               | 20                      | 0.70                  |
|                 |         |            |            |                     |             |                     | ISA1286AS1   |             | 2SA1369               |                       | 20                      | 1.50                  |
|                 |         |            |            |                     |             |                     | 2SA1998      | ISC3242AS1  |                       |                       | 20                      | 2.00                  |
|                 |         | 2SC5384    |            | 2SC4258             |             | 2SC3053             |              | 2SC5397     |                       |                       | 25                      | 0.03                  |
|                 |         |            |            |                     |             |                     | ISB1035AS1   | ISD1447AS1  | 2SA1947               | 2SC5214               | 25                      | 1.00                  |
|                 |         |            |            |                     | INA5005AC1● | INC5005AC1●         |              | 2SC5484     |                       | 2SC3439               | 25                      | 1.50                  |
|                 |         |            |            | 2SC6120             |             | 2SC6046             |              |             |                       |                       | 40                      | 0.60                  |
|                 | 2SA1989 |            |            |                     |             |                     | ISA1995AS1   | 2SC5398     |                       |                       | 50                      | 0.10                  |
|                 |         |            | ISA1603AM1 |                     | ISA1530AC1  |                     |              |             |                       |                       | 50                      | 0.15                  |
|                 |         | 2SC5383    | ISA1602AM1 | 2SC4154<br>2SC4155A | ISA1235AC1  | 2SC3052<br>2SC3928A | ISA1993AS1   | 2SC5395     |                       |                       | 50                      | 0.20                  |
|                 |         |            |            |                     | 2SA1366     | 2SC3441             | ISA1399AS1   | ISC3581AS1  | 2SA1945               | 2SC5211               | 50                      | 0.40                  |
|                 |         |            |            |                     |             |                     | ISA1995AS1   | 2SC5938     |                       |                       | 50                      | 0.10                  |
|                 |         |            |            |                     | INA5001AC1  |                     | ISA1287AS1   | ISC3247AS1  | 2SA1944<br>INA5001AP1 | 2SC5209               | 50                      | 1.00                  |
|                 |         |            |            |                     | INA5006AC1  |                     |              |             |                       |                       | 50                      | 2.00                  |
|                 |         |            |            |                     |             | INC5006AC1          |              |             |                       |                       | 50                      | 3.00                  |
|                 |         |            |            | 2SC5815             |             | 2SC5814             |              |             |                       |                       | 60                      | 0.125                 |
|                 |         |            | ISA2166AM1 |                     | 2SA2166     |                     |              |             |                       |                       | 60                      | 0.50                  |
|                 |         |            |            |                     |             | INC5001AC1          | ISA1283AS1   | 2SC5482     | 2SA1364               | 2SC3444<br>INC5001AP1 | 60                      | 1.00                  |
|                 |         |            |            |                     |             |                     |              | ISC4356AS1  | 2SA2167               | 2SC4357               | 60                      | 2.00                  |
|                 |         |            |            |                     | INA5002AC1  | INC5002AC1●         |              |             | INA5002AP1            | INC5002AP1            | 60                      | 3.00                  |
|                 |         |            |            |                     | INA1001AC1  | INC1001AC1          |              |             |                       |                       | 80                      | 0.50                  |
| 高耐圧             |         |            |            |                     |             |                     | ISA1284AS1   | ISC3244AS1  | 2SA1368               | 2SC3438               | 100                     | 0.50                  |
|                 |         |            |            |                     | INA6001AC1  | INC6001AC1          |              |             | INA6001AP1            | INC6001AP1            | 100                     | 1.00                  |
|                 |         |            |            |                     |             |                     |              |             |                       |                       | 100                     | 2.00                  |
|                 |         |            |            |                     |             |                     |              |             |                       |                       | 100                     | 5.00                  |
|                 |         |            |            |                     |             | INC6008AC1          |              |             |                       | INC6008AP1            | 140                     | 1.00                  |
|                 |         |            | INA6017AM1 |                     | INA6006AC1  |                     | INA6006AS1   |             | INA6006AP1            |                       | 150                     | 0.10                  |
|                 |         |            |            | INC6017AM1          |             | INC6006AC1          |              | INC6006AS1● |                       | INC6006AP1            | 160                     | 0.10                  |
|                 |         |            |            |                     |             |                     |              | ISC3249AS1  |                       | 2SC5210               | 250                     | 0.10                  |
|                 |         |            |            |                     | INA6002AC1  | INC6002AC1          |              |             |                       |                       | 300                     | 0.05                  |
|                 |         |            |            |                     | 2SA2026     | 2SC5625             |              |             | 2SA2027               | 2SC5633               | 300                     | 0.10                  |
|                 |         |            |            |                     | INA6005AC1  | INC6005AC1          |              |             | INA6005AP1            | INC6005AP1            | 400                     | 0.10                  |
|                 |         |            |            |                     |             |                     | INA6012AS1●  |             |                       |                       | 400                     | 0.20                  |

● : 開発中(Developing)

# 特性早見表

## Characteristic Map

### イサハヤ電子MOS-FET ISAHAYA MOS-FETS

| パッケージ             | SC-75A      |             | SC-70      |             | SC-59      |             | マイクロ(TO-92S) |            | SC-62      |             | VDSS<br>(V) | VGSS<br>(V) | Vth<br>(V) | ID<br>(A) |
|-------------------|-------------|-------------|------------|-------------|------------|-------------|--------------|------------|------------|-------------|-------------|-------------|------------|-----------|
| 用途                | Pch         | Nch         | Pch        | Nch         | Pch        | Nch         | Pch          | Nch        | Pch        | Nch         |             |             |            |           |
| 高速<br>スイッチ<br>ング  |             |             |            |             | INJ0303AC1 |             |              |            |            |             | 12          | ±8          | 0.4~1.2    | 3.00      |
|                   | INJ0003AU1  | INK0003AU1  | INJ0003AM1 | INK0003AM1  | INJ0003AC1 | INK0003AC1  |              |            |            |             | 20          | ±8          | 0.6~1.2    | 0.20      |
|                   | INJ0103AU1● |             | INJ0103AM1 |             | INJ0103AC1 |             |              |            |            |             | 20          | ±8          | 0.4~1.3    | 0.40      |
|                   |             | INK0103AU1● |            |             |            |             |              |            |            |             | 20          | ±8          | 0.5~1.0    | 0.60      |
|                   |             |             |            | INK0103AM1● |            | INK0103AC1● |              |            |            |             | 20          | ±8          | 0.5~1.0    | 0.70      |
|                   |             |             |            |             | INJ0203AC1 |             |              |            |            |             | 20          | ±10         | 0.4~1.2    | 2.00      |
|                   |             |             |            |             | INJ0203BC1 |             |              |            |            |             |             |             |            |           |
|                   | INJ0002AU1  | INK0002AU1  | INJ0002AM1 | INK0002AM1  | INJ0002AC1 | INK0002AC1  |              |            |            |             | 30          | ±8          | 0.6~1.2    | 0.20      |
|                   |             | INK0102AU1● |            |             |            |             |              |            |            |             | 30          | ±8          | 0.4~1.1    | 0.55      |
|                   |             |             |            | INK0102AM1● |            | INK0102AC1  |              |            |            |             | 30          | ±8          | 0.4~1.1    | 0.68      |
|                   |             |             |            |             |            |             |              |            |            |             | 30          | ±10         | 0.4~1.2    | 2.50      |
|                   |             |             |            |             |            | INK0302BC1● |              |            |            |             |             |             |            |           |
|                   |             | INK0012AU1  |            | INK0012AM1  |            | INK0012AC1  |              |            |            |             | 30          | ±20         | 1.0~2.0    | 0.20      |
|                   |             | INK0112AU1  |            | INK0112AM1  |            | INK0112AC1  |              |            |            |             | 30          | ±20         | 1.0~2.0    | 0.50      |
|                   |             |             |            |             |            |             |              |            | INJ0212AP1 |             | 30          | ±20         | 1.0~2.5    | 2.50      |
|                   |             |             |            |             |            |             |              |            |            | INK0512AP1● | 30          | ±20         | 1.0~2.5    | 4.50      |
|                   | INJ0001AU1  | INK0001AU1  | INJ0001AM1 | INK0001AM1  | INJ0001AC1 | INK0001AC1  |              |            |            |             | 50          | ±8          | 0.6~1.2    | 0.10      |
|                   |             | INK0001BU1  |            | INK0001BM1  |            | INK0001BC1  |              |            |            |             |             |             | 1.0~2.0    |           |
|                   | INJ0011AU1  |             | INJ0011AM1 |             | INJ0011AC1 |             |              |            |            |             | 50          | ±20         | 1.0~2.0    | 0.10      |
|                   |             |             |            |             | INJ0312AC1 |             |              |            |            |             | 50          | ±20         | 1.0~2.5    | 1.10      |
|                   |             |             |            |             |            |             |              |            | INJ0312AP1 |             | 50          | ±20         | 1.0~2.5    | 2.00      |
|                   |             |             |            |             |            | INKE111AC1  |              |            |            |             | 50±10       | ±20         | 1.0~2.0    | 0.50      |
|                   |             |             |            |             |            | INKE211AC1● |              |            |            |             | 50±10       | ±20         | 1.0~2.0    | 1.00      |
|                   |             |             |            |             |            | INK0200AC1  |              |            |            |             | 60          | ±10         | 0.4~1.3    | 1.00      |
|                   |             | INK0010AU1  |            |             |            |             |              |            |            |             | 60          | ±20         | 1.0~2.0    | 0.10      |
|                   |             |             |            | INK0010AM1  |            | INK0010AC1  |              |            |            |             | 60          | ±20         | 1.0~2.0    | 0.26      |
|                   |             | INK0110AU1● |            |             |            |             |              |            |            |             | 60          | ±20         | 1.0~2.0    | 0.30      |
|                   |             |             |            | INK0110AM1● |            | INK0110AC1● |              |            |            |             | 60          | ±20         | 1.0~2.0    | 0.50      |
|                   |             |             |            |             |            | INK0210AC1  |              |            |            |             | 60          | ±20         | 1.0~2.5    | 1.00      |
|                   |             |             |            |             |            |             |              |            |            | INK0210AP1  | 60          | ±20         | 1.0~2.5    | 2.00      |
|                   |             |             |            |             |            |             |              |            |            | INK0310AP1  | 60          | ±20         | 1.0~2.5    | 2.50      |
|                   |             |             |            |             |            |             |              |            | INJ021AAP1 |             | 100         | ±20         | 1.0~2.5    | 1.20      |
|                   |             |             |            |             |            |             | INK021ABS1   |            |            |             | 100         | ±20         | 1.0~2.5    | 1.40      |
|                   |             |             |            |             |            |             |              |            |            | INK021AAP1  | 100         | ±20         | 1.0~2.5    | 2.00      |
|                   |             |             |            |             |            |             |              |            |            | INK011BAP1● | 150         | ±20         | 1.0~2.5    | 1.20      |
| アクティ<br>ブ<br>クランプ |             |             |            |             |            | INKA114AC1● |              | INKA114AS1 |            |             | 50±12       | 10          | 1.0~2.5    | 0.50      |
|                   |             |             |            |             |            |             |              |            |            | INKA114AP1● |             |             |            | 0.80      |

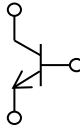
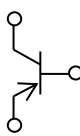
● : 開発中(Developing)

# 特性早見表

## Characteristic Map

イサハヤ電子 汎用小信号トランジスタ

ISAHAYA GENERAL-PURPOSE SMALL-SIGNAL TRANSISTORS

| タイプ<br>Type                                                                                             | IC               | ウルトラ<br>スーパーミニタイプ<br>Ultra Super Mini Type<br>(SC-75A) | スーパーミニタイプ<br>Super Mini Type(SC-70) | ミニタイプ<br>Mini Type(SC-59) | マイクロタイプ<br>Micro Type |
|---------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------|-------------------------------------|---------------------------|-----------------------|
| NPN Type<br>           | 200mA<br>(100mA) | 2SC5383                                                | 2SC4154                             | 2SC3052                   | 2SC5395               |
|                                                                                                         |                  | hFE:EF                                                 | hFE:EF                              | hFE:EF                    | hFE:EF                |
|                                                                                                         | 100mA            | -                                                      | 2SC4155A                            | 2SC3928A                  | 2SC5398 (100mA)       |
|                                                                                                         |                  | -                                                      | hFE:QRST                            | hFE:QRST                  | hFE:QRST              |
| PNPタイプ<br>PNP Type<br> | 200mA<br>(150mA) | -                                                      | ISA1602AM1                          | ISA1235AC1                | ISA1993AS1            |
|                                                                                                         |                  | -                                                      | hFE:EF                              | hFE:EF                    | hFE:EF                |
|                                                                                                         | 150mA<br>(100mA) | ISA1989AU1(100mA)                                      | ISA1603AM1                          | ISA1530AC1                | ISA1995AS1            |
|                                                                                                         |                  | hFE:QRS                                                | hFE:QRS                             | hFE:QRS                   | hFE:QRS               |

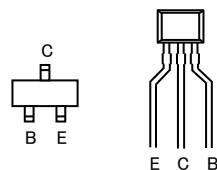
〈hFE ランク〉

〈hFE RANK〉

|   |         |   |         |
|---|---------|---|---------|
| E | 150~300 | Q | 120~270 |
| F | 250~500 | R | 180~390 |
|   |         | S | 270~560 |
|   |         | T | 390~820 |

〈リード配線〉

〈Lead arrangement〉



イサハヤ電子 汎用小信号MOS型電界効果トランジスタ

ISAHAYA GENERAL-PURPOSE SMALL-SIGNAL MOSFETS

| ドレイン<br>電流<br>ID(A) | ゲート閾値<br>電圧<br>Vth(V) | ゲート-<br>ソース間電<br>圧<br>VGSS(V) | ドレイン-ソース間電圧 VDSS(V) |                                |                                |                                |               |     |
|---------------------|-----------------------|-------------------------------|---------------------|--------------------------------|--------------------------------|--------------------------------|---------------|-----|
|                     |                       |                               | 10                  | 20                             | 30                             | 50                             | 60            | 100 |
| 100m<br>~<br>260m   | 0.6~1.2               | ±8                            | -                   | INK0003AX1(N)<br>INJ0003AX1(P) | INK0002AX1(N)<br>INJ0002AX1(P) | INK0001AX1(N)<br>INJ0001AX1(P) | -             | -   |
|                     |                       |                               | -                   | -                              | -                              | INK0001BX1(N)                  | -             | -   |
|                     | 1.0~2.0               | ±20                           | -                   | -                              | INK0012AX1(N)                  | INJ0011AX1(P)                  | INK0010AX1(N) | -   |
| 500m                | 1.0~2.0               | ±20                           | -                   | -                              | INK0112AX1(N)●                 | -                              | -             | -   |

● : 開発中(Developing)

(注1) ( )内のNはNch、PはPchを表しています。

(note1) "N" in the parenthesis shows Nch, "P" in the parenthesis shows Pch.

(注2) 末尾に「X」の付いている形名は、パッケージにより文字が異なります。(2頁参照)

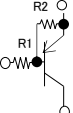
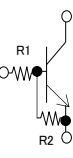
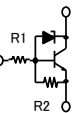
(note2) About the product name that the last character is "X", "X" is different according to the package. (page 2 reference)

# 特性早見表

## Characteristic Map

イサハヤ電子 抵抗入リトランジスタ

ISAHAYA RESISTANCE BUILT-IN TRANSISTORS

| 仕 様<br>Specification                                                                                                           | 外形<br>Package |            | ミニタイプ<br>Mini Type<br>(SC-59) |          | スーパーミニタイプ<br>Super Mini Type<br>(SC-70) |          | ウルTRASーパーミニタイプ<br>Ultra Super Mini Type<br>(SC-75A) |          | マイクロタイプ<br>Micro Type<br>(TO-92S) |          | SC-62タイプ<br>SC-62 Type<br>(SOT-89) |           | SMD Package<br>マーク<br>形名表示<br>marking Indication |     |
|--------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-------------------------------|----------|-----------------------------------------|----------|-----------------------------------------------------|----------|-----------------------------------|----------|------------------------------------|-----------|--------------------------------------------------|-----|
|                                                                                                                                | Pc            |            | 200mW                         |          | 200mW                                   |          | 150mW                                               |          | 450mW                             |          | 500mW                              |           |                                                  |     |
|                                                                                                                                | R1<br>(kΩ)    | R2<br>(kΩ) | PNP                           | NPN      | PNP                                     | NPN      | PNP                                                 | NPN      | PNP                               | NPN      | PNP                                | NPN       | PNP                                              | NPN |
| PNPタイプ<br>PNP Type<br>                         | 10            | —          | RT1P140C                      | RT1N140C | RT1P140M                                | RT1N140M | RT1P140U                                            | RT1N140U | RT1P140S                          | RT1N140S | —                                  | —         | P7                                               | N7  |
|                                                                                                                                | 10            | 10         | RT1P141C                      | RT1N141C | RT1P141M                                | RT1N141M | RT1P141U                                            | RT1N141U | RT1P141S                          | RT1N141S | —                                  | —         | P1                                               | N1  |
|                                                                                                                                | 10            | 47         | RT1P144C                      | RT1N144C | RT1P144M                                | RT1N144M | RT1P144U                                            | RT1N144U | RT1P144S                          | RT1N144S | —                                  | —         | P5                                               | N5  |
|                                                                                                                                | 22            | 22         | RT1P241C                      | RT1N241C | RT1P241M                                | RT1N241M | RT1P241U                                            | RT1N241U | RT1P241S                          | RT1N241S | —                                  | —         | P2                                               | N2  |
|                                                                                                                                | 4.7           | —          | RT1P430C                      | RT1N430C | RT1P430M                                | RT1N430M | RT1P430U                                            | RT1N430U | RT1P430S                          | RT1N430S | —                                  | —         | P6                                               | N6  |
|                                                                                                                                | 4.7           | 22         | RT1P434C                      | RT1N434C | RT1P434M                                | RT1N434M | RT1P434U                                            | RT1N434U | RT1P434S                          | RT1N434S | —                                  | —         | P4                                               | N4  |
|                                                                                                                                | 47            | 47         | RT1P441C                      | RT1N441C | RT1P441M                                | RT1N441M | RT1P441U                                            | RT1N441U | RT1P441S                          | RT1N441S | —                                  | —         | P3                                               | N3  |
|                                                                                                                                | 2.2           | 2.2        | RT1P231C                      | RT1N231C | RT1P231M                                | RT1N231M | RT1P231U                                            | RT1N231U | RT1P231S                          | RT1N231S | —                                  | —         | PB                                               | NB  |
|                                                                                                                                | 2.2           | 47         | RT1P237C                      | RT1N237C | RT1P237M                                | RT1N237M | RT1P237U                                            | RT1N237U | RT1P237S                          | RT1N237S | —                                  | —         | PD                                               | ND  |
|                                                                                                                                | 4.7           | 4.7        | RT1P431C                      | RT1N431C | RT1P431M                                | RT1N431M | RT1P431U                                            | RT1N431U | RT1P431S                          | RT1N431S | —                                  | —         | PF                                               | NF  |
| NPNタイプ<br>NPN Type<br>                        | 2.2           | —          | RT1P230C                      | RT1N230C | RT1P230M                                | RT1N230M | RT1P230U                                            | RT1N230U | RT1P230S                          | RT1N230S | —                                  | —         | PL                                               | NL  |
|                                                                                                                                | 4.7           | 10         | RT1P432C                      | RT1N432C | RT1P432M                                | RT1N432M | RT1P432U                                            | RT1N432U | RT1P432S                          | RT1N432S | —                                  | —         | PG                                               | NG  |
|                                                                                                                                | 4.7           | 47         | RT1P436C                      | RT1N436C | RT1P436M                                | RT1N436M | RT1P436U                                            | RT1N436U | RT1P436S                          | RT1N436S | —                                  | —         | PH                                               | NH  |
|                                                                                                                                | —             | 10         | RT1P14BC                      | RT1N14BC | RT1P14BM                                | RT1N14BM | RT1P14BU                                            | RT1N14BU | RT1P14BS                          | RT1N14BS | —                                  | —         | PU                                               | NU  |
|                                                                                                                                | 1             | 10         | RT1P136C                      | RT1N136C | RT1P136M                                | RT1N136M | RT1P136U                                            | RT1N136U | RT1P136S                          | RT1N136S | —                                  | —         | PC                                               | NC  |
|                                                                                                                                | 2.2           | 10         | RT1P234C                      | RT1N234C | RT1P234M                                | RT1N234M | RT1P234U                                            | RT1N234U | RT1P234S                          | RT1N234S | —                                  | —         | PE                                               | NE  |
|                                                                                                                                | 47            | —          | RT1P440C                      | RT1N440C | RT1P440M                                | RT1N440M | RT1P440U                                            | RT1N440U | RT1P440S                          | RT1N440S | —                                  | —         | PR                                               | NR  |
|                                                                                                                                | 10            | 4.7        | RT1P14HC                      | RT1N14HC | RT1P14HM                                | RT1N14HM | RT1P14HU                                            | RT1N14HU | RT1P14HS                          | RT1N14HS | —                                  | —         | PJ                                               | NJ  |
|                                                                                                                                | 22            | —          | RT1P240C                      | RT1N240C | RT1P240M                                | RT1N240M | RT1P240U                                            | RT1N240U | RT1P240S                          | RT1N240S | —                                  | —         | PQ                                               | NQ  |
|                                                                                                                                | 100           | —          | RT1P150C                      | RT1N150C | RT1P150M                                | RT1N150M | RT1P150U                                            | RT1N150U | RT1P150S                          | RT1N150S | —                                  | —         | PS                                               | NS  |
|                                                                                                                                | 100           | 100        | RT1P151C                      | RT1N151C | RT1P151M                                | RT1N151M | RT1P151U                                            | RT1N151U | RT1P151S                          | RT1N151S | —                                  | —         | PA                                               | NA  |
|                                                                                                                                | 1             | —          | RT1P130C                      | RT1N130C | RT1P130M                                | RT1N130M | RT1P130U                                            | RT1N130U | RT1P130S                          | RT1N130S | —                                  | —         | PP                                               | NP  |
|                                                                                                                                | 22            | 47         | RT1P242C                      | RT1N242C | RT1P242M                                | RT1N242M | RT1P242U                                            | RT1N242U | RT1P242S                          | RT1N242S | —                                  | —         | PK                                               | NK  |
|                                                                                                                                | 47            | 10         | RT1P44QC                      | RT1N44QC | RT1P44QM                                | RT1N44QM | RT1P44QU                                            | RT1N44QU | RT1P44QS                          | RT1N44QS | —                                  | —         | PM                                               | NM  |
|                                                                                                                                | 47            | 22         | RT1P44HC                      | RT1N44HC |                                         | RT1N44HM | RT1P44HU                                            | RT1N44HU | RT1P44HS                          | RT1N44HS | —                                  | —         | PN                                               | NN  |
|                                                                                                                                | 200           | —          | RT1P250C                      | RT1N250C | RT1P250M                                | RT1N250M | RT1P250U                                            | RT1N250U | RT1P250S                          | RT1N250S | —                                  | —         | PT                                               | NT  |
|                                                                                                                                | —             | 22         | RT1P24BC                      | RT1N24BC | RT1P24BM                                | RT1N24BM | RT1P24BU                                            | RT1N24BU | RT1P24BS                          | RT1N24BS | —                                  | —         | PV                                               | NV  |
|                                                                                                                                | —             | 47         | RT1P44BC                      | RT1N44BC | RT1P44BM                                | RT1N44BM | RT1P44BU                                            | RT1N44BU | RT1P44BS                          | RT1N44BS | —                                  | —         | PW                                               | NW  |
|                                                                                                                                | —             | 100        | RT1P15BC                      | RT1N15BC | RT1P15BM                                | RT1N15BM | RT1P15BU                                            | RT1N15BU | RT1P15BS                          | RT1N15BS | —                                  | —         | PX                                               | NX  |
| Ic=400mA<br>Vce0=20V<br>(for muting)                                                                                           | 2.2           | —          | —                             | RTAN230C | —                                       | RTAN230M | —                                                   | RTAN230U | —                                 | —        | —                                  | —         | —                                                | Q9• |
|                                                                                                                                | 4.7           | —          | —                             | RTAN430C | —                                       | RTAN430M | —                                                   | RTAN430U | —                                 | —        | —                                  | —         | —                                                | QA• |
|                                                                                                                                | 10            | —          | —                             | RTAN140C | —                                       | RTAN140M | —                                                   | RTAN140U | —                                 | —        | —                                  | —         | —                                                | QB• |
| Ic=500mA<br>Vce0=50V                                                                                                           | 1             | 1          | RT5P131C                      | RT5N131C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•1                                              | N•1 |
|                                                                                                                                | 2.2           | 2.2        | RT5P231C                      | RT5N231C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•2                                              | N•2 |
|                                                                                                                                | 4.7           | 4.7        | RT5P431C                      | RT5N431C | —                                       | —        | —                                                   | —        | RT5P431S                          | —        | —                                  | —         | P•3                                              | N•3 |
|                                                                                                                                | 10            | 10         | RT5P141C                      | RT5N141C | —                                       | —        | —                                                   | —        | —                                 | RT5N141S | —                                  | —         | P•4                                              | N•4 |
|                                                                                                                                | 0.22          | 4.7        | RT5P227C                      | RT5N227C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•5                                              | N•5 |
|                                                                                                                                | 1             | 10         | RT5P136C                      | RT5N136C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•6                                              | N•6 |
|                                                                                                                                | 2.2           | 10         | RT5P234C                      | RT5N234C | —                                       | —        | —                                                   | —        | —                                 | RT5N234S | —                                  | —         | P•7                                              | N•7 |
|                                                                                                                                | 3.3           | 10         | RT5P333C                      | RT5N333C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•8                                              | N•8 |
|                                                                                                                                | 2.2           | —          | RT5P230C                      | RT5N230C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•9                                              | N•9 |
|                                                                                                                                | 4.7           | —          | RT5P430C                      | RT5N430C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•A                                              | N•A |
|                                                                                                                                | 10            | —          | RT5P140C                      | RT5N140C | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•B                                              | N•B |
|                                                                                                                                | —             | 10         | RT5P14BC                      | RT5N14BC | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | —         | P•C                                              | N•C |
| Ic=1A<br>Vce0=60V<br>(※)                                                                                                       | 1             | 22         | —                             | —        | —                                       | —        | —                                                   | —        | RT1P137S                          | RT1N137S | RT1P137P                           | RT1N137P  | P1                                               | N1  |
| Ic=1A<br>Vce0=60V<br>With<br>Zener diode<br> | 4.7           | 10         | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN432P  | —                                                | NE  |
|                                                                                                                                | 2.2           | 10         | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN234AP | —                                                | NA  |
|                                                                                                                                | 1             | 1          | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN131AP | —                                                | NB  |
|                                                                                                                                | 10            | 10         | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN141AP | —                                                | NC  |
|                                                                                                                                | 0.47          | 4.7        | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN426AP | —                                                | ND  |
|                                                                                                                                | 0.22          | 2.2        | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN226AP | —                                                | NF  |
|                                                                                                                                | —             | 10         | —                             | —        | —                                       | —        | —                                                   | —        | —                                 | —        | —                                  | RTGN14BAP | —                                                | NG  |

(※) RT1P137X、RT1N137XのみVCE0=40V

受注生産品種がございます。営業へお問い合わせ願います。Some Make-to-Order manufacturing exists. Please ask to sales office.

# 用途別一覧

## Application Guide

### ●トランジスタ Transistors

| 用 途<br>Use            |                                        | 形名<br>Type Name     |             | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package          | マーク形名表示<br>Marking Indication |       | 備考<br>Remarks                                                                    |  |
|-----------------------|----------------------------------------|---------------------|-------------|-------------------------|------------------------|------------------------|---------------------------|-------------------------------|-------|----------------------------------------------------------------------------------|--|
|                       |                                        | PNP                 | NPN         | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                           | PNP                           | NPN   |                                                                                  |  |
| 汎用<br>General Purpose | 汎用<br>General Purpose                  | ISA1995AS1          | 2SC5398     | 50                      | 100                    | 450                    | マイクロ<br>Micro<br>(TO-92S) | A95                           | 398   | NF<15dB. hFEの<br>リニアリティがよい<br>Excellent linearity of<br>DC forward current gain. |  |
|                       |                                        | ISA1993AS1          | 2SC5395     |                         |                        |                        |                           | A93                           | 395   |                                                                                  |  |
|                       |                                        | ISA1235AC1          | 2SC3052     |                         | 200                    | 200                    | SC-59                     | ・M*                           | L*    |                                                                                  |  |
|                       |                                        | —                   | 2SC3928A    |                         |                        |                        |                           | —                             | H・*   |                                                                                  |  |
|                       |                                        | ISA1602AM1          | 2SC4154     |                         |                        |                        | SC-70                     | ・M*                           | L*    |                                                                                  |  |
|                       |                                        | —                   | 2SC4155A    |                         |                        |                        |                           | —                             | H・*   |                                                                                  |  |
|                       |                                        | —                   | 2SC5383     |                         |                        |                        |                           | —                             | L*    |                                                                                  |  |
|                       |                                        | ISA1989AU1          | —           |                         | 150                    | 150                    | SC-75A                    | ・T*                           | —     |                                                                                  |  |
|                       |                                        | ISA1530AC1          | —           |                         | 150                    | 200                    | SC-59                     | ・T*                           | —     |                                                                                  |  |
|                       |                                        | ISA1603AM1          | —           |                         |                        |                        | SC-70                     | ・T*                           | —     |                                                                                  |  |
|                       |                                        | —                   | 2SC5814     | 60                      | 125                    | 150                    | SC-59                     | —                             | E*    |                                                                                  |  |
|                       |                                        | —                   | 2SC5815     |                         |                        |                        | SC-70                     | —                             | E*    |                                                                                  |  |
|                       | 低周波増幅用<br>For low frequency<br>amplify | 高耐圧<br>High Voltage | ISA1284AS1  | ISC3244AS1              | 100                    | 500                    | 600                       | Micro                         | 284   | 244                                                                              |  |
|                       |                                        |                     | 2SA1368     | 2SC3438                 |                        |                        | 500                       | SC-62                         | E     | F                                                                                |  |
|                       |                                        |                     | INA6001AC1  | INC6001AC1              |                        | 1A                     | 200<br>(500*)             | SC-59                         | AGG   | 6W                                                                               |  |
|                       |                                        |                     | INA6001AP1  | INC6001AP1              |                        |                        | 500                       | SC-62                         | BG    | BL                                                                               |  |
|                       |                                        |                     | —           | INC6008AC1              | 140                    | 1A                     | 200<br>(500*)             | SC-59                         | —     | CHG                                                                              |  |
|                       |                                        |                     | —           | INC6008AP1              |                        |                        | 500                       | SC-62                         | —     | BH                                                                               |  |
|                       |                                        |                     | INA6006AC1  | INC6006AC1              | PNP: 150<br>NPN: 160   | 100                    | 200<br>(500*)             | SC-59                         | AHE   | CJE                                                                              |  |
|                       |                                        |                     | INA6006AS1  | INC6006AS1●             |                        |                        | 600                       | Micro                         | A06   | C06                                                                              |  |
|                       |                                        |                     | INA6006AP1  | INC6006AP1              |                        |                        | 200                       | SC-62                         | BE    | BF                                                                               |  |
|                       |                                        |                     | INA6017AM1  | INC6017AM1              |                        |                        | 200                       | SC-70                         | DW・   | CW・                                                                              |  |
|                       |                                        |                     | —           | ISC3249AS1              | 250                    | 100                    | 600                       | Micro                         | —     | 249                                                                              |  |
|                       |                                        |                     | —           | 2SC5210                 |                        |                        | 500                       | SC-62<br>(SOT-89)             | —     | S                                                                                |  |
|                       |                                        |                     | 2SA2027     | 2SC5633                 | 300                    |                        |                           |                               | AH    | AJ                                                                               |  |
|                       |                                        |                     | 2SA2026     | 2SC5625                 | 150                    |                        | SC-59                     | Y                             | U*    |                                                                                  |  |
|                       |                                        |                     |             | INC6002AC1              |                        | 50                     |                           | 3W                            | 4W    |                                                                                  |  |
|                       |                                        |                     | INA6005AC1  | INC6005AC1              | 400                    | 100                    | 200                       | SC-62<br>(SOT-89)             | ALA   | CLA                                                                              |  |
|                       |                                        |                     | INA6005AP1  | INC6005AP1              |                        |                        | 500                       |                               | BC    | BD                                                                               |  |
|                       |                                        |                     | INA6012AS1● | —                       |                        |                        | 200                       | 600                           | Micro | A12                                                                              |  |

\* : ガラエポ基板実装時 (Mounted on glass-epoxy substrate)

● : 開発中 (Developing)

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## Application Guide

### ●トランジスタ Transistors

| 用 途<br>Use                          |                                                          | 形名<br>Type Name                                |             | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package  | マーク形名表示<br>Marking Indication |     | 備考<br>Remarks                                                                |                             |
|-------------------------------------|----------------------------------------------------------|------------------------------------------------|-------------|-------------------------|------------------------|------------------------|-------------------|-------------------------------|-----|------------------------------------------------------------------------------|-----------------------------|
|                                     |                                                          | PNP                                            | NPN         | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                   | PNP                           | NPN |                                                                              |                             |
| 低周波増幅用<br>For low frequency amplify | 高hFE<br>High hFE                                         | 2SA1369                                        | 2SC3439     | NPN: 20<br>PNP: 25      | 1.5A                   | 500                    | SC-62             | G                             | H   | (PNP)hFE:400-800<br>(NPN)hFE:400-3000                                        |                             |
|                                     |                                                          | ISA1286AS1                                     | 2SC5484     | 25                      |                        | 600                    | Micro             | 286                           | 484 |                                                                              |                             |
|                                     |                                                          | ISA1287AS1                                     | ISC3247AS1  | 50                      | 1A                     | 600                    |                   | 287                           | 247 | (PNP)hFE:400-800<br>(NPN)hFE:600-1800                                        |                             |
|                                     |                                                          | 2SA1944                                        | 2SC5209     |                         |                        | 500                    | SC-62             | X                             | R   |                                                                              |                             |
|                                     | 大電流<br>低VCE (sat)<br>High current drive<br>Low VCE (sat) | 2SA1363                                        | 2SC3443     | 16                      | 2A                     | 500                    | SC-62             | A                             | B   | VCE(sat)=0.17Vtyp.<br>(@Ic=1A/Ib=50mA)                                       |                             |
|                                     |                                                          | -                                              | ISC3242AS1  | 16(itemG)               |                        | 600                    | Micro<br>(TO-92S) | 998                           | 42A |                                                                              |                             |
|                                     |                                                          | 2SA1998                                        |             | 20                      |                        |                        |                   |                               |     |                                                                              |                             |
|                                     |                                                          | 2SA2188                                        | 2SC6053     | 20                      | 650                    | 200                    | SC-59             | ・A*                           | ・B* |                                                                              |                             |
|                                     |                                                          | ISA2188AM1                                     | ISC6053AM1  |                         |                        |                        | SC-70             | ・A*                           | ・B* |                                                                              |                             |
|                                     |                                                          | 2SA2002                                        | 2SC5485     | 20                      | 700                    | 600                    | Micro             | 002                           | 485 | f <sub>T</sub> =180MHz typ.<br>VCE(sat)=0.2Vtyp<br>(@Ic=500mA/Ib=25mA)       |                             |
|                                     |                                                          | 2SA1946                                        | 2SC5212     |                         |                        | 500                    | SC-62             | AA                            | U   |                                                                              |                             |
|                                     |                                                          | 2SA1365                                        | 2SC3440     |                         |                        | 200                    | SC-59             | A*                            | B*  |                                                                              |                             |
|                                     |                                                          | 2SA1369                                        | 2SC3439     | NPN: 20<br>PNP: 25      | 1.5A                   | 500                    | SC-62             | G                             | H   |                                                                              |                             |
|                                     |                                                          | ISB1035AS1                                     | ISD1447AS1  | 25                      | 1A                     | 600                    | Micro             | 035                           | 447 |                                                                              |                             |
|                                     |                                                          | 2SA1947                                        | 2SC5214     |                         |                        | 500                    | SC-62             | AB                            | W   |                                                                              |                             |
|                                     |                                                          | INA5005AC1●                                    | INC5005AC1● |                         | 1.5A                   | 200<br>(500*)          | SC-59             | ACH                           | CCH |                                                                              |                             |
|                                     |                                                          | ISA1286AS1                                     | 2SC5484     | 600                     |                        | Micro                  | 286               | 484                           |     |                                                                              |                             |
|                                     |                                                          | 2SA2166                                        | 2SC6046     | NPN: 40<br>PNP: 60      | NPN: 600<br>PNP: 500   | 200                    | SC-59             | A・*                           | B・* |                                                                              |                             |
|                                     |                                                          | ISA2166AM1                                     | 2SC6120     |                         |                        |                        | SC-70             | A・*                           | B・* |                                                                              |                             |
|                                     |                                                          | ISA1287AS1                                     | ISC3247AS1  | 50                      | 1A                     | 600                    | Micro             | 287                           | 484 |                                                                              |                             |
|                                     |                                                          | 2SA1944                                        | 2SC5209     |                         |                        | 500                    | SC-62             | X                             | R   |                                                                              |                             |
|                                     |                                                          | INA5001AP1                                     | INC5001AP1  | NPN: 60<br>PNP: 50      | 1A                     | 500                    | SC-62             | AZ                            | AY  |                                                                              |                             |
|                                     |                                                          | INA5001AC1                                     | INC5001AC1  |                         |                        | 200<br>(500*)          | SC-59             | XZ                            | XY  |                                                                              |                             |
|                                     |                                                          | INA5006AC1                                     | INC5006AC1  | NPN: 60<br>PNP: 50      | 2A                     | 200<br>(500*)          | SC-59             | AEJ                           | CKE |                                                                              |                             |
|                                     |                                                          | -                                              | 2SC5482     | 60                      | 1A                     | 600                    | Micro             | 283                           | 482 | VCE(sat)=0.11Vtyp.<br>(@Ic=500mA/Ib=25mA)                                    |                             |
|                                     |                                                          | 2SA1364                                        | 2SC3444     |                         |                        | 500                    | SC-62             | C                             | D   |                                                                              |                             |
|                                     |                                                          | スイッチング用<br>For switching<br>ドライブ用<br>For drive | INA1001AC1  | INC1001AC1              | 80                     | 500                    | 200<br>(500*)     | SC-59                         | AFD | CFD                                                                          | f <sub>T</sub> =150MHz typ. |
|                                     |                                                          |                                                | ISA1399AS1  | ISC3581AS1              | 50                     | 400                    | 600               | Micro                         | 399 | 581                                                                          |                             |
|                                     | 2SA1945                                                  |                                                | 2SC5211     | 500                     |                        |                        | SC-62             | Z                             | T   |                                                                              |                             |
|                                     | 2SA1366                                                  |                                                | 2SC3441     | 200                     |                        |                        | SC-59             | C*                            | D*  |                                                                              |                             |
| 2SA2167                             | 2SC4357                                                  |                                                | 60          | 2A                      | 500                    | SC-62                  | AL                | L                             |     |                                                                              |                             |
| INA5002AC1                          | INC5002AC1●                                              |                                                |             | 3A                      | 200<br>(500*)          | SC-59                  | AEK               | CFK                           |     |                                                                              |                             |
| INA5002AP1                          | INC5002AP1                                               |                                                |             |                         | 500                    | SC-62                  | BA                | BB                            |     |                                                                              |                             |
| 高周波<br>High frequency               | RT1A3906                                                 |                                                | RT1C3904    | 40                      | 200                    | 150                    | SC-59             | 2*                            | 1*  | RT1A3906 f <sub>T</sub> =250MHz min.<br>RT1C3904 f <sub>T</sub> =300MHz min. |                             |

\* : ガラエポ基板実装時 (Mounted on glass-epoxy substrate)

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

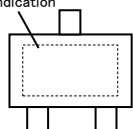
### ●高周波トランジスタ High Frequency Transistors

| 用 途<br>Use                              |                             | 形名<br>Type Name |         | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package | マーク形名表示<br>Marking Indication |     | 備考<br>Remarks               |
|-----------------------------------------|-----------------------------|-----------------|---------|-------------------------|------------------------|------------------------|------------------|-------------------------------|-----|-----------------------------|
|                                         |                             | PNP             | NPN     | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                  | PNP                           | NPN |                             |
| 高周波増幅用<br>For high frequency amplify    | FM RF CON. IF               | —               | 2SC5397 | 25                      | 30                     | 450                    | Micro            | —                             | 397 | f <sub>T</sub> =200MHz typ. |
|                                         |                             | —               | 2SC3053 |                         |                        | 150                    | SC-59            | —                             | F ● |                             |
|                                         |                             | —               | 2SC4258 |                         |                        |                        | SC-70            | —                             | F ● |                             |
|                                         |                             | —               | 2SC5384 |                         |                        | 125                    | SC-75A           | —                             | F ● |                             |
| 高周波汎用<br>High frequency general purpose | f <sub>T</sub> =1.1GHz typ. | —               | 2SC5477 | 20                      | 50                     | 150                    | SC-59            | —                             | S ● |                             |
|                                         |                             | —               | 2SC5626 |                         |                        | 125                    | SC-70            | —                             | S ● |                             |
|                                         | f <sub>T</sub> =4.5GHz typ. | —               | 2SC5619 | 12                      |                        | 150                    | SC-59            | —                             | G ● |                             |
|                                         |                             | —               | 2SC5620 |                         |                        | 125                    | SC-70            | —                             | G ● |                             |
|                                         |                             | —               | 2SC5621 |                         |                        | 100                    | SC-75A           | —                             | G ● |                             |
|                                         | f <sub>T</sub> =8.0GHz typ. | —               | 2SC5634 | 6                       |                        | 150                    | SC-59            | —                             | R ● |                             |
|                                         |                             | —               | 2SC5635 |                         |                        | 125                    | SC-70            | —                             | R ● |                             |
|                                         |                             | —               | 2SC5636 |                         |                        | 100                    | SC-75A           | —                             | R ● |                             |

#### マーク図

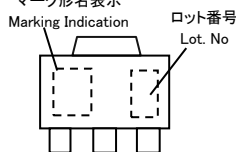
#### Marking

マーク形名表示  
Marking Indication



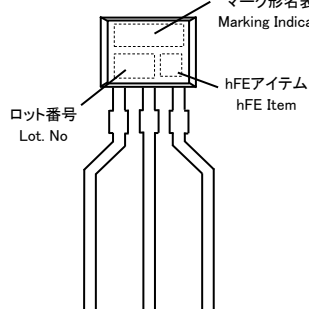
SC-59, SC-70  
SC-75A

マーク形名表示  
Marking Indication



SC-62 (SOT-89)

マーク形名表示  
Marking Indication



MICR (TO-92S)

# 用途別一覧

## Application Guide

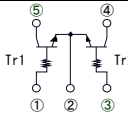
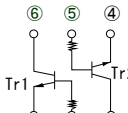
### ●ミュート用トランジスタ Transistors for Muting Purpose

| 用 途<br>Use        | 形名<br>Type Name |            | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package | マーク形名表示<br>Marking Indication |     |
|-------------------|-----------------|------------|-------------------------|------------------------|------------------------|------------------|-------------------------------|-----|
|                   | PNP             | NPN        | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                  | PNP                           | NPN |
| ミュート用<br>For Mute | -               | INC2002AC1 | 20                      | 600                    | 200                    | SC-59            | -                             | XW· |
|                   | -               | INC2002AM1 |                         |                        | 150                    | SC-70            | -                             | XW· |
|                   | -               | INC2002AU1 |                         |                        |                        | SC-75A           | -                             | XW· |

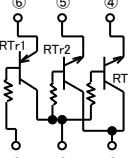
### ●ミュート用抵抗内蔵トランジスタ Resistance Built-in Transistors for Muting

| 用 途<br>Use                                                                   |                  | 形名<br>Type Name |          | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package | マーク形名表示<br>Marking Indication |     |
|------------------------------------------------------------------------------|------------------|-----------------|----------|-------------------------|------------------------|------------------------|------------------|-------------------------------|-----|
|                                                                              |                  | PNP             | NPN      | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                  | PNP                           | NPN |
| 抵抗入り<br>トランジスタ<br>ミュート用<br>Resistance<br>built-in transistor<br>(for muting) | R1=2.2k $\Omega$ | -               | RTAN230C | 20                      | 400                    | 200                    | SC-59            | -                             | Q9· |
|                                                                              |                  | -               | RTAN230M |                         |                        | 150                    | SC-70            | -                             | Q9· |
|                                                                              |                  | -               | RTAN230U |                         |                        |                        | SC-75A           | -                             | Q9· |
|                                                                              | R1=4.7k $\Omega$ | -               | RTAN430C |                         |                        | 200                    | SC-59            | -                             | QA· |
|                                                                              |                  | -               | RTAN430M |                         |                        | 150                    | SC-70            | -                             | QA· |
|                                                                              |                  | -               | RTAN430U |                         |                        |                        | SC-75A           | -                             | QA· |
|                                                                              | R1=10k $\Omega$  | -               | RTAN140C |                         |                        | 200                    | SC-59            | -                             | QB· |
|                                                                              |                  | -               | RTAN140M |                         |                        | 150                    | SC-70            | -                             | QB· |
|                                                                              |                  | -               | RTAN140U |                         |                        |                        | SC-75A           | -                             | QB· |

### ●ミュート用複合トランジスタ Composite Transistors for Muting

| 用 途<br>Use                                                               | タイプ<br>Type | TR1              | TR2              | 形名<br>Type Name | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package | 等価回路<br>Equivalent<br>Circuit                                                         | Marking |
|--------------------------------------------------------------------------|-------------|------------------|------------------|-----------------|-------------------------|------------------------|------------------------|------------------|---------------------------------------------------------------------------------------|---------|
|                                                                          |             |                  |                  |                 | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                  |                                                                                       |         |
| 抵抗入りトランジスタ<br>ミュート用<br>Resistance built-in<br>transistor<br>(for muting) | NPN x 2     | R1=2.2k $\Omega$ | R1=2.2k $\Omega$ | RT2N62M         | 20                      | 400                    | 150                    | SC-88A           |  | N62     |
|                                                                          |             | R1=4.7k $\Omega$ | R1=4.7k $\Omega$ | RT2N63M         |                         |                        |                        |                  |                                                                                       | N63     |
|                                                                          |             | R1=10k $\Omega$  | R1=10k $\Omega$  | RT2N65M         |                         |                        |                        |                  |                                                                                       | N65     |
|                                                                          |             | R1=2.2k $\Omega$ | R1=2.2k $\Omega$ | RT3X99M         |                         |                        |                        | SC-88            |  | X99     |
|                                                                          |             | R1=4.7k $\Omega$ | R1=4.7k $\Omega$ | RT3XAAM         |                         |                        |                        |                  |                                                                                       | XAA     |
|                                                                          |             | R1=10k $\Omega$  | R1=10k $\Omega$  | RT3XBBM         |                         |                        |                        |                  |                                                                                       | XBB     |
| ミュートトランジスタ<br>For mute                                                   |             | -                | -                | RT3CXXM         |                         | 600                    |                        |                  |                                                                                       | CXX     |

### ●歪防止用PNP Tr内蔵型 PNP Tr with a distortion prevention buffer

| 用 途<br>Use                                                                 | タイプ<br>Type         | TR1             | TR2, TR3<br>共通<br>TR2, TR3<br>Common | 形名<br>Type Name | 最大定格<br>Max. Ratings<br>(TR1) |                        | 最大定格<br>Max. Ratings<br>(TR2, TR3) |                        | 最大<br>定格<br>Max.<br>Ratings | パッケージ<br>Package | 等価回路<br>Equivalent<br>Circuit                                                         | Marking |
|----------------------------------------------------------------------------|---------------------|-----------------|--------------------------------------|-----------------|-------------------------------|------------------------|------------------------------------|------------------------|-----------------------------|------------------|---------------------------------------------------------------------------------------|---------|
|                                                                            |                     |                 |                                      |                 | V <sub>CEO</sub><br>(V)       | I <sub>c</sub><br>(mA) | V <sub>CEO</sub><br>(V)            | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW)      |                  |                                                                                       |         |
| 抵抗入り<br>トランジスタ<br>ミュート用<br>Resistor<br>built-in transistor<br>(for muting) | NPN x 2<br>+<br>PNP | R1=10k $\Omega$ | R1=2.2k $\Omega$                     | RT3Y97M         | -9                            | -100                   | 15                                 | 200                    | 150                         | SC-88            |  | Y97     |
|                                                                            |                     |                 | R1=4.7k $\Omega$                     | RT3YA7M         |                               |                        |                                    |                        |                             |                  |                                                                                       | YA7     |
|                                                                            |                     |                 | R1=10k $\Omega$                      | RT3YB7M         |                               |                        |                                    |                        |                             |                  |                                                                                       | YB7     |

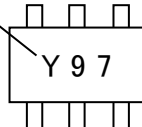
受注生産品種がございます。営業へお問い合わせ願います。Some Make-to-Order manufacturing exists. Please ask to sales office.

マーク図  
Marking

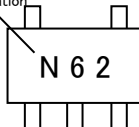
マーク形名表示  
Marking Indication

マーク形名表示  
Marking Indication

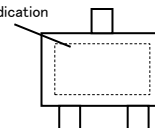
マーク形名表示  
Marking Indication



SC-88



SC-88A



SC-59, SC-70  
SC-75A

# 用途別一覧

## Application Guide

### ●1Aクラス 抵抗内蔵型 Resistance Built-in Transistors Ic=1A class

| 用 途<br>Use                                                                        |                                  | 形名<br>Type Name |          | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package  | マーク形名表示<br>Marking Indication |     |
|-----------------------------------------------------------------------------------|----------------------------------|-----------------|----------|-------------------------|------------------------|------------------------|-------------------|-------------------------------|-----|
|                                                                                   |                                  | PNP             | NPN      | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                   | PNP                           | NPN |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | R1=1k $\Omega$ , R2=22k $\Omega$ | RT1P137P        | RT1N137P | 40                      | 1A                     | 500                    | SC-62<br>(SOT-89) | P1                            | N1  |

### ●ツェナー入り抵抗内蔵トランジスタ Zener Diode and Resistance Built-in Transistors

| 用 途<br>Use                                                                                               |                                      | 形名<br>Type Name | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package  | 等価回路<br>Equivalent<br>Circuit | マーク形名表示<br>Marking Indication |  |
|----------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|-------------------------|------------------------|------------------------|-------------------|-------------------------------|-------------------------------|--|
|                                                                                                          |                                      |                 | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                   |                               |                               |  |
| Ze入り抵抗内蔵<br>トランジスタスイッチング<br>用<br>Zener diode and<br>resistance<br>built-in transistor<br>(for switching) | R1=4.7k $\Omega$ , R2=10k $\Omega$   | RTGN432P        | 60 $\pm$ 10             | 1A                     | 500                    | SC-62<br>(SOT-89) |                               | NE                            |  |
|                                                                                                          | R1=2.2k $\Omega$ , R2=10k $\Omega$   | RTGN234AP       |                         |                        |                        |                   |                               | NA                            |  |
|                                                                                                          | R1=1k $\Omega$ , R2=1k $\Omega$      | RTGN131AP       |                         |                        |                        |                   |                               | NB                            |  |
|                                                                                                          | R1=10k $\Omega$ , R2=10k $\Omega$    | RTGN141AP       |                         |                        |                        |                   |                               | NC                            |  |
|                                                                                                          | R1=0.47k $\Omega$ , R2=4.7k $\Omega$ | RTGN426AP       |                         |                        |                        |                   |                               | ND                            |  |
|                                                                                                          | R1=0.22k $\Omega$ , R2=2.2k $\Omega$ | RTGN226AP       |                         |                        |                        |                   |                               | NF                            |  |
|                                                                                                          |                                      | RTGN14BAP       |                         |                        |                        |                   |                               | NG                            |  |
|                                                                                                          | R2=10k $\Omega$                      | RTGN14BAC1      |                         |                        | 200                    | SC-59             |                               | GNG                           |  |

### ●接合型電界効果トランジスタ Junction Field Effect Transistors

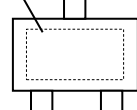
| 用 途<br>Use                                      |  | 形名<br>Type Name |         | 最大定格<br>Max. Ratings    |                        |                        | 電気的特性<br>Electrical<br>Characteristics | パッケージ<br>Package | マーク形名表示<br>Marking Indication |     |
|-------------------------------------------------|--|-----------------|---------|-------------------------|------------------------|------------------------|----------------------------------------|------------------|-------------------------------|-----|
|                                                 |  | Pch             | Nch     | V <sub>GDO</sub><br>(V) | I <sub>G</sub><br>(mA) | P <sub>T</sub><br>(mW) |                                        |                  | Pch                           | Nch |
| 低周波汎用<br>General-purpose low frequency          |  | 2SJ498          | 2SK2880 | 50                      | 10                     | 450                    | typ.  yfs =<br>3mS/4mS                 | TO-92S Micro     | J98                           | K80 |
|                                                 |  | 2SJ125          | 2SK433  |                         |                        | 150                    |                                        | SC-59            | -                             | K*  |
|                                                 |  | 2SJ145          | 2SK930  |                         |                        | 150                    |                                        | SC-70            | -                             | K*  |
| 低周波低雑音用<br>For low frequency, low noise amplify |  | -               | 2SK2881 | -                       | -                      | 450                    | typ.  yfs =<br>-/15mS                  | TO-92S Micro     | -                             | K81 |
|                                                 |  | -               | 2SK492  |                         |                        | 150                    |                                        | SC-59            | -                             | X*  |

### ●シリコン双方向スイッチング素子 Silicon Bilateral Switching Device

| 形名<br>Type Name | 最大定格<br>Max. Ratings                           |                                                                  |                                                        | 電気的特性<br>Electrical Characteristics                 |                                                                        | パッケージ<br>Package |
|-----------------|------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------|------------------|
|                 | 直流オン電流<br>DC on-current<br>I <sub>T</sub> (mA) | ピーク繰返しオン電流<br>Repetitive peak on-current<br>I <sub>TRM</sub> (A) | 接合温度<br>Junction<br>temperature<br>T <sub>J</sub> (°C) | スイッチング電圧<br>Switching Voltage<br>V <sub>s</sub> (V) | スイッチング電圧温度計数<br>Switching Voltage<br>temperature coefficient<br>(%/°C) |                  |
| BS08D           | 175 (Ta=25°C)                                  | 1.0<br>(1% duty, tw=10 $\mu$ s,<br>Ta=100°C)                     | 125                                                    | 7 ~ 9                                               | $\pm$ 0.01<br>(Ta=-55 ~ +85°C)                                         | TO-92S<br>Micro  |
| BS08E           | 100 (Ta=25°C)                                  |                                                                  |                                                        |                                                     |                                                                        | SC-59            |

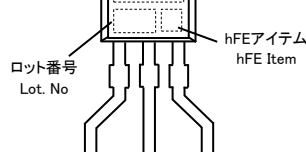
マーク図  
Marking

マーク形名表示  
Marking Indication



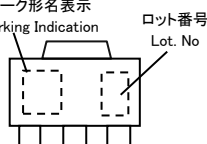
SC-59, SC-70  
SC-75A

マーク形名表示  
Marking Indication



MICR (TO-92S)

マーク形名表示  
Marking Indication



SC-62 (SOT-89)

# 用途別一覧

## Application Guide

### ●スイッチング用(ダブルダイオード、クアドラプルダイオード) For Switching (Double Diodes, Quadruple Diodes)

| 用 途<br>Use                                   |                                                                | 形名<br>Type Name | 最大定格<br>Max. Ratings |               |             |            | 電気的特性<br>Electrical Characteristics    |                                        | パッケージ<br>Package | 等価回路<br>Equivalent Circuit | マーク形名表示<br>Marking Indication |    |     |
|----------------------------------------------|----------------------------------------------------------------|-----------------|----------------------|---------------|-------------|------------|----------------------------------------|----------------------------------------|------------------|----------------------------|-------------------------------|----|-----|
|                                              |                                                                |                 | VRM<br>(V)           | VR<br>(V)     | IFM<br>(mA) | Io<br>(mA) | Ct<br>(pF)                             | trr<br>(ns)                            |                  |                            |                               |    |     |
| 汎用スイッチング<br>General purpose<br>for switching | アノード共通<br>Anode Common                                         | MC961           | 85(※)<br>(75)        | 80(※)<br>(50) | 300         | 100        | 2.8typ.                                | 4.0max.                                | TO-92S Micro     |                            | M61                           |    |     |
|                                              |                                                                | MC2836          |                      |               |             |            |                                        |                                        | SC-59            |                            | A4                            |    |     |
|                                              |                                                                | MC2846          |                      |               |             |            |                                        |                                        | SC-70            |                            |                               |    |     |
|                                              |                                                                | MC2856          |                      |               |             |            |                                        |                                        | SC-75A           |                            |                               |    |     |
|                                              | カソード共通<br>Cathode Common                                       | MC971           |                      |               |             |            | 300                                    | 100                                    | 1.0typ.          | 3.0max.                    | TO-92S Micro                  |    | M71 |
|                                              |                                                                | MC2838          |                      |               |             |            |                                        |                                        |                  |                            | SC-59                         |    | A6  |
|                                              |                                                                | MC2848          |                      |               |             |            |                                        |                                        | SC-70            |                            |                               |    |     |
|                                              |                                                                | MC2858          |                      |               |             |            |                                        |                                        | SC-75A           |                            |                               |    |     |
|                                              | シリーズタイプ<br>Series Type                                         | MC981           | 35                   | 30            | 300         | 100        | 1.2typ.                                | -                                      | TO-92S Micro     |                            | M81                           |    |     |
|                                              |                                                                | MC982           |                      |               |             |            | D1:6typ.<br>D2:10typ.                  |                                        | SC-59            |                            | M82                           |    |     |
|                                              |                                                                | MC2840          |                      |               |             |            |                                        |                                        | SC-70            |                            | A7                            |    |     |
|                                              |                                                                | MC2850          | 85                   | 80            |             |            | 0.9typ.                                | 4.0max.                                | SC-59            |                            |                               | A0 |     |
|                                              |                                                                | MC2837          |                      |               |             |            |                                        |                                        | SC-59            | A8                         |                               |    |     |
|                                              |                                                                | MC2835          |                      |               |             |            | D1:6typ.<br>D2:10typ.                  | -                                      | SC-59            |                            |                               |    |     |
|                                              |                                                                | MC2845          | 35                   | 30            |             |            |                                        |                                        | SC-70            |                            |                               |    |     |
|                                              | アノード共通<br>+カソード共通<br>Anode Common(AC)+<br>Cathode Common(CC)   | RT3DKAM         | 85                   | 80            | 300         | 100        | CAtype<br>2.8typ.<br>CCtype<br>1.3typ. | CAtype<br>4.0typ.<br>CCtype<br>4.0typ. | SC-88            |                            | DKA                           |    |     |
|                                              | アノード共通<br>+アノード共通<br>Anode Common(AC)+<br>Anode Common(AC)     | RT3DAAM         | 85                   | 80            | 300         | 100        | CAtype<br>2.8typ.                      | CAtype<br>4.0typ.                      | SC-88            |                            | DAA                           |    |     |
|                                              | カソード共通<br>+カソード共通<br>Cathode Common(CC)+<br>Cathode Common(CC) | RT3DKKM●        | 85                   | 80            | 300         | 100        | CCtype<br>1.3typ.                      | CCtype<br>4.0typ.                      | SC-88            |                            | DKK                           |    |     |
|                                              | シリーズタイプ<br>+シリーズタイプ<br>Series Type+<br>Series Type             | RT3DSSM         | 35                   | 30            | 300         | 100        | Di1<br>6typ.<br>Di2<br>10typ.          | —<br>—                                 | SC-88            |                            | DSS                           |    |     |

(※) 130 規格品 の最大定格を示す。( )内は標準規格の最大定格を示す。

This shows maximum ratings of 130 standard . The value of ( ) shows maximum ratings of general standard .

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

### ●スイッチング用(シングルダイオード) For Switching (Single Diode)

| 用 途<br>Use                                   |                        | 形名<br>Type Name | 最大定格<br>Max. Ratings |               |             |            | 電気的特性<br>Electrical Characteristics |             | パッケージ<br>Package | 等価回路<br>Equivalent Circuit | マーク形名表示<br>Marking Indication |
|----------------------------------------------|------------------------|-----------------|----------------------|---------------|-------------|------------|-------------------------------------|-------------|------------------|----------------------------|-------------------------------|
|                                              |                        |                 | VRM<br>(V)           | VR<br>(V)     | IFM<br>(mA) | Io<br>(mA) | Ct<br>(pF)                          | trr<br>(ns) |                  |                            |                               |
| 汎用スイッチング<br>General purpose<br>for switching | シングルタイプ<br>Single Type | MC2831          | 85(※)<br>(75)        | 80(※)<br>(50) | 300         | 100        | 2.8typ.                             | 4.0max.     | SC-59            |                            | A1                            |
|                                              |                        | MC2841          |                      |               |             |            |                                     |             | SC-70            |                            |                               |
|                                              |                        | MC2832          |                      |               |             |            | 1.3typ.                             | 3.0max.     | SC-59            |                            | A3                            |
|                                              |                        | MC2843          |                      |               |             |            |                                     |             | SC-70            |                            | A3                            |
|                                              |                        | MC2852          |                      |               |             |            | 2.8typ.                             | 4.0max.     | SC-75A           |                            | A3                            |
|                                              |                        | MC2833          |                      |               |             |            |                                     |             | SC-59            |                            | A2                            |
|                                              |                        | MC2842          |                      |               |             |            | 1.3typ.                             | 4.0max.     | SC-70            |                            | A2                            |
|                                              |                        | MC2834          |                      |               |             |            |                                     |             | SC-59            |                            | A5                            |
|                                              |                        | MC2844          |                      |               |             |            |                                     |             | SC-70            |                            |                               |
|                                              |                        | MC2854          |                      |               |             |            |                                     |             | SC-75A           |                            |                               |

(※) 130 規格品の最大定格を示す。( )内は標準規格の最大定格を示す。

This shows maximum ratings of 130 standard . The value of ( ) shows maximum ratings of general standard .

### ●ESD保護用(ダブルダイオード) For Transient Voltage Suppressor (Double Diode)

| 用 途<br>Use   |                        | 形名<br>Type Name | ESD耐量<br>( IEC61000-4-2 )<br>Electrostatic Discharge<br>( IEC61000-4-2 ) | 電気的特性<br>Electrical Characteristics |            | パッケージ<br>Package | 等価回路<br>Equivalent Circuit | マーク形名表示<br>Marking Indication |
|--------------|------------------------|-----------------|--------------------------------------------------------------------------|-------------------------------------|------------|------------------|----------------------------|-------------------------------|
|              |                        |                 |                                                                          | VBR<br>(V)                          | Ct<br>(pF) |                  |                            |                               |
| ESD保護<br>TVS | アノード共通<br>Anode Common | INT05V3AM1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 5.6                                 | 15         | SC-70            |                            | T・1                           |
|              | アノード共通<br>Anode Common | INT06V4BM1      | Air discharge : ±30kV<br>Contact discharge : ±30kV                       | 6.8                                 | 40         | SC-70            |                            | ・T4                           |
|              | アノード共通<br>Anode Common | INT06V4BS1      | Air discharge : ±30kV<br>Contact discharge : ±30kV                       | 6.8                                 | 40         | TO-92S Micro     |                            | 6V4B                          |
|              | アノード共通<br>Anode Common | INTB3V6AC1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 3.6                                 | 170        | SC-59            |                            | T・8                           |
|              | アノード共通<br>Anode Common | INTB5V6AC1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 5.6                                 | 120        | SC-59            |                            | T・9                           |
|              | アノード共通<br>Anode Common | INTB8V2AC1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 8.2                                 | 60         | SC-59            |                            | T・A                           |
|              | アノード共通<br>Anode Common | INTB16VAC1●     | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 16                                  | 26         | SC-59            |                            | T・B                           |
|              | アノード共通<br>Anode Common | INTB18VAC1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 18                                  | 20         | SC-59            |                            | T・5                           |
|              | アノード共通<br>Anode Common | INTB27VAC1      | Air discharge : ±15kV<br>Contact discharge : ±8kV                        | 27                                  | 18         | SC-59            |                            | T・7                           |

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

### ●MOS形電界効果トランジスタ MOS-FETS

| 用 途<br><br>Use                                                              |                               | 形名<br>Type Name             |              | 最大定格<br>Max. Ratings    |                         |                        |                        | 電気的特性<br>Electrical Characteristics |                          |                         |                        | パッケージ<br>Package       | マーク形名<br>表示<br>Marking<br>Indication |       |         |         |                         |       |
|-----------------------------------------------------------------------------|-------------------------------|-----------------------------|--------------|-------------------------|-------------------------|------------------------|------------------------|-------------------------------------|--------------------------|-------------------------|------------------------|------------------------|--------------------------------------|-------|---------|---------|-------------------------|-------|
|                                                                             |                               | Nch                         | Pch          | V <sub>DSS</sub><br>(V) | V <sub>GSS</sub><br>(V) | I <sub>D</sub><br>(mA) | P <sub>D</sub><br>(mW) | ゲート閾値電圧<br>V <sub>th</sub> (V)      | R <sub>DS</sub> (ON) (Ω) |                         | Nch                    |                        | Pch                                  |       |         |         |                         |       |
|                                                                             |                               |                             |              |                         |                         |                        |                        |                                     | Nch                      | Pch                     |                        |                        |                                      |       |         |         |                         |       |
| MOS形電界効果<br>トランジスタ<br>高速スイッチング用<br>MOS-FET<br>(for High speed<br>switching) | 汎用<br>General<br>Purpose      | INK0003AC1                  | INJ0003AC1   | 20                      | ±8                      | 200                    | 200                    | 0.6～1.2                             | typ 0.9<br>(@VGS=4V)     | typ 2.0<br>(@VGS=4V)    | SC-59                  | K・3                    | J・3                                  |       |         |         |                         |       |
|                                                                             |                               | INK0003AM1                  | INJ0003AM1   |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0003AU1                  | INJ0003AU1   |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0002AC1                  | INJ0002AC1   | 30                      |                         | 200                    | 200                    |                                     | typ 1.1<br>(@VGS=4V)     | typ 3.0<br>(@VGS=4V)    | SC-59                  | K・2                    | J・2                                  |       |         |         |                         |       |
|                                                                             |                               | INK0002AM1                  | INJ0002AM1   |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0002AU1                  | INJ0002AU1   |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0001AC1                  | INJ0001AC1   | 50                      |                         | 100                    | 200                    |                                     | typ 3.5<br>(@VGS=4V)     | typ 7.0<br>(@VGS=4V)    | SC-59                  | K・1                    | J・1                                  |       |         |         |                         |       |
|                                                                             |                               | INK0001AM1                  | INJ0001AM1   |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0001AU1                  | INJ0001AU1   |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0001BC1.△                | —            | 50                      | ±8                      | 100                    | 200                    | 1.0～2.0                             | typ 4.0<br>(@VGS=4V)     | —                       | SC-59                  | ・K1                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0001BM1.△                | —            |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0001BU1.△                | —            |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0012AC1                  | —            | 30                      | ±20                     | 200                    | 200                    |                                     | typ 1.0<br>(@VGS=10V)    | —                       | SC-59                  | K・6                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0012AM1                  | —            |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0012AU1                  | —            |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0011AC1   | 50                      |                         | 100                    | 200                    |                                     | —                        | ty 4.8<br>(@VGS=10V)    | SC-59                  | —                      | J・5                                  |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0011AM1   |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0011AU1   |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0010AC1                  | —            | 60                      |                         | 260                    | 200                    | typ 3.0<br>(@VGS=10V)               | —                        | SC-59                   | K・4                    | —                      |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0010AM1                  | —            |                         |                         |                        |                        |                                     |                          | SC-70                   |                        |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0010AU1                  | —            |                         |                         |                        |                        |                                     |                          | SC-75A                  |                        |                        |                                      |       |         |         |                         |       |
|                                                                             | 大電流<br>High current<br>drive  | INK0103AC1●                 | —            | 20                      | ±8                      | 700                    | 200                    | 0.5～1.0                             | typ 330m<br>(@VGS=4.5V)  | —                       | SC-59                  | K・G                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0103AM1●                 | —            |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0103AU1●                 | —            |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0103AC1   | 20                      |                         | 400                    | 200                    | 0.4～1.3                             | —                        | typ 700m<br>(@VGS=4.5V) | SC-59                  | —                      | J・G                                  |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0103AM1   |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0103AU1●  |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0102AC1                  | —            | 30                      | ±20                     | 680                    | 370*                   | 0.4～1.1                             | typ 350m<br>(@VGS=4.5V)  | —                       | SC-59                  | K・L                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0102AM1●                 | —            |                         |                         |                        |                        |                                     |                          |                         | SC-70                  |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0102AU1●                 | —            |                         |                         |                        |                        |                                     |                          |                         | SC-75A                 |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0112AC1                  | —            | 30                      |                         | ±20                    | 500                    | 200                                 | 1.0～2.0                  | typ 400m<br>(@VGS=10V)  | —                      | SC-59                  | K・7                                  | —     |         |         |                         |       |
|                                                                             |                               | INK0112AM1                  | —            |                         |                         |                        |                        |                                     |                          |                         |                        | SC-70                  |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0112AU1                  | —            |                         |                         |                        |                        |                                     |                          |                         |                        | SC-75A                 |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0110AC1●                 | —            | 60                      |                         |                        | 500                    | 400*                                | 1.0～2.0                  | typ 1.1<br>(@VGS=10V)   | —                      | SC-59                  | K・F                                  | —     |         |         |                         |       |
|                                                                             |                               | INK0110AM1●                 | —            |                         |                         |                        |                        |                                     |                          |                         |                        | SC-70                  |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0110AU1●                 | —            |                         |                         |                        |                        |                                     |                          |                         |                        | SC-75A                 |                                      |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0303AC1   | 12                      | ±8                      | 3A                     | 500*                   | 0.4～1.2                             | typ 75m<br>(@VGS=4.5V)   | typ 50m                 | SC-59                  | —                      | J・M                                  |       |         |         |                         |       |
|                                                                             |                               | —                           | INJ0203AC1   | 20                      |                         |                        |                        |                                     |                          |                         | 2A                     |                        |                                      | 200   | 0.4～1.2 | —       | typ 100m<br>(@VGS=4.5V) | SC-59 |
|                                                                             |                               | —                           | INJ0203BC1.△ |                         |                         |                        |                        |                                     |                          |                         |                        |                        |                                      |       |         |         |                         | SC-59 |
|                                                                             |                               | INK0302AC1                  | —            | 30                      | ±10                     | 2.5A                   | 200                    | 0.4～1.2                             | typ 75m<br>(@VGS=4.5V)   | —                       | SC-59                  | K・9                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0200AC1                  | —            | 60                      |                         |                        |                        |                                     |                          |                         | 1A                     |                        |                                      | 200   | 0.4～1.3 | typ200m | —                       | SC-59 |
|                                                                             |                               | —                           | INJ0212AP1   | 30                      |                         |                        |                        |                                     |                          |                         |                        |                        |                                      |       |         |         |                         | 2.5A  |
|                                                                             |                               | INK0512AP1●                 | —            | 30                      |                         | 4.5A                   | 500                    | —                                   | typ47m                   | —                       |                        | SC-62                  | KC                                   |       |         |         |                         | —     |
|                                                                             |                               | —                           | INJ0312AC1.△ | 50                      |                         | ±20                    | 1.1A                   | 500*                                | 1.0～2.5                  | —                       | typ 350m<br>(@VGS=10V) | SC-59                  | —                                    | J・9   |         |         |                         |       |
|                                                                             |                               | —                           | INJ0312AP1.△ | 50                      |                         |                        |                        |                                     |                          |                         |                        | 2A                     |                                      |       | 2W*     | SC-62   | —                       | J9    |
|                                                                             |                               | INK0210AC1                  | —            | 60                      | 1A                      |                        |                        |                                     |                          |                         |                        |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | INK0210AP1                  | —            | 60                      | 2A                      |                        | 500                    | —                                   |                          | SC-62                   | KA                     |                        | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK0310AP1                  | —            |                         | 2.5A                    |                        | 500                    | typ75m                              |                          | —                       | SC-62                  | KB                     | —                                    |       |         |         |                         |       |
|                                                                             |                               | INK021AAP1                  | —            |                         | 100                     |                        | 2A                     | 1.5W*                               |                          | typ200m<br>(@VGS=10V)   | —                      | SC-62                  | KD                                   | —     |         |         |                         |       |
|                                                                             |                               | INK021ABS1                  | —            | 1.4A                    |                         |                        | 600                    | TO-92S Micro                        |                          | 21AK                    | —                      |                        |                                      |       |         |         |                         |       |
|                                                                             |                               | 高耐圧<br>High voltage         | INK011BAP1●  | —                       | 150                     |                        | ±20                    | 1.2A                                |                          | 1.2W*                   | 1.0～2.5                | typ 0.5<br>(@VGS=4.5V) | —                                    | SC-62 | KN      | —       |                         |       |
|                                                                             |                               | Ze内蔵<br>With Zener<br>Diode | INKE111AC1   | —                       | 50±10                   | ±20                    | 500                    | 400*                                | 1.0～2.0                  | typ 0.8<br>(@VGS=4.5V)  | —                      | SC-59                  | K・E                                  | —     |         |         |                         |       |
|                                                                             |                               |                             | INKE211AC1●  | —                       | 50±10                   | ±20                    | 1A                     | 400*                                | 1.0～2.0                  | typ 0.2<br>(@VGS=4.5V)  | —                      | SC-59                  | K・K                                  | —     |         |         |                         |       |
|                                                                             | アクティブ<br>クランプ<br>Active Clamp | INKA114AC1●                 | —            | 50±12                   | 10                      | 500                    | 500*                   | 1.0～2.5                             | typ 1.1<br>(@VGS=5.0V)   | —                       | SC-59                  | K・U                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INKA114AP1●                 | —            |                         |                         | 800                    | 1.2W*                  |                                     |                          | —                       | SC-62                  | K・U                    | —                                    |       |         |         |                         |       |
|                                                                             |                               | INKA114AS1                  | —            |                         |                         | 500                    | 800                    |                                     |                          | —                       | TO-92S Micro           | 114K                   | —                                    |       |         |         |                         |       |

△ : 静電破壊耐量向上品 (ESD Protected)

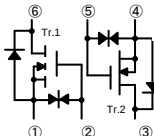
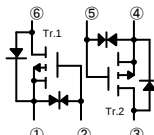
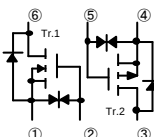
● : 開発中 (Developing)

\* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

# 用途別一覧

## Application Guide

### ●複合MOS-FET Composite MOS-FETS

| 用 途<br>Use                            | タイプ<br>Type     | 形名<br>Type Name | TR1      | TR2      | 最大定格<br>Max. Ratings    |                         |                        |                        | ゲート閾値<br>電圧<br>Vth<br>(V) | パッケージ<br>Package                                                                    | 等価回路<br>Equivalent Circuit                                                            | マーク形名<br>表示           |
|---------------------------------------|-----------------|-----------------|----------|----------|-------------------------|-------------------------|------------------------|------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------|
|                                       |                 |                 |          |          | V <sub>DSS</sub><br>(V) | V <sub>GSS</sub><br>(V) | I <sub>D</sub><br>(mA) | P <sub>D</sub><br>(mW) |                           |                                                                                     |                                                                                       | Marking<br>Indication |
| MOS形<br>電界効果<br>トランジスタ<br><br>MOS-FET | Nch<br>× 2      | RT3K33M         | INK0003A | INK0003A | 20                      | ±8                      | 150                    | 0.6~1.2                | SC-88                     |  | K33                                                                                   |                       |
|                                       |                 | RT3K33U         | INK0003A | INK0003A |                         |                         | 200                    |                        | 150*                      |                                                                                     | USM6F                                                                                 | K33                   |
|                                       |                 | RT3KGGM         | INK0103A | INK0103A |                         |                         | 600                    | 150                    | 0.5~1.0                   |                                                                                     | SC-88<br>(SC-70 6pin)                                                                 | KGG                   |
|                                       |                 | RT3K22M         | INK0002A | INK0002A | 30                      |                         | 200                    |                        | 0.6~1.2                   |                                                                                     |                                                                                       | K22                   |
|                                       |                 | RT3K11M         | INK0001A | INK0001A | 50                      |                         | 100                    |                        |                           |                                                                                     |                                                                                       | K11                   |
|                                       |                 | RT3K66M         | INK0012A | INK0012A | 30                      | ±20                     | 200                    |                        | 1.0~2.0                   |                                                                                     |                                                                                       | K66                   |
|                                       |                 | RT3K44M         | INK0010A | INK0010A | 60                      |                         | 100                    |                        |                           |                                                                                     |                                                                                       | K44                   |
|                                       |                 | RT3KFFM●        | INK0110A | INK0110A |                         |                         | 300                    |                        |                           |                                                                                     |                                                                                       | KFF                   |
|                                       | Pch<br>× 2      | RT3J33M         | INJ0003A | INJ0003A | 20                      | ±8                      | 200                    | 150                    | 0.6~1.2                   | SC-88<br>(SC-70 6pin)                                                               |    | J33                   |
|                                       |                 | RT3J22M         | INJ0002A | INJ0002A | 30                      |                         | 100                    |                        |                           |                                                                                     |                                                                                       | J22                   |
|                                       |                 | RT3J11M         | INJ0001A | INJ0001A | 50                      |                         | ±20                    |                        | 1.0~2.0                   |                                                                                     |                                                                                       | J11                   |
|                                       |                 | RT3J55M         | INJ0011A | INJ0011A |                         | J55                     |                        |                        |                           |                                                                                     |                                                                                       |                       |
|                                       |                 | RT3JGGM         | INJ0103A | INJ0103A | 20                      | ±8                      | 550                    | 600*                   | 0.6~1.2                   |                                                                                     |                                                                                       | JGG                   |
|                                       | Nch<br>+<br>Pch | RT3U33M         | INK0003A | INJ0003A | 20                      | ±8                      | 200                    | 150                    | 0.6~1.2                   | SC-88<br>(SC-70 6pin)                                                               |  | U33                   |
|                                       |                 | RT3U22M         | INK0002A | INJ0002A | 30                      |                         |                        | 150*                   |                           | USM6F                                                                               |                                                                                       | U22                   |
|                                       |                 | RT3U22U         | INK0002A | INJ0002A |                         |                         |                        | 100                    |                           | SC-88<br>(SC-70 6pin)                                                               |                                                                                       | U22                   |
|                                       |                 | RT3U11M         | INK0001A | INJ0001A | 50                      |                         | 100                    |                        |                           |                                                                                     |                                                                                       | 150                   |

受注生産品種がございます。営業へお問い合わせ願います。Some Make-to-Order manufacturing exists. Please ask to sales office.

● : 開発中 (Developing) \* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

# 用途別一覧

## Application Guide

### ● 複合トランジスタ Composite Transistors

| 用途<br>Use                                                                         | タイプ<br>Type | 形名<br>Type Name | TR1                | TR2                | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package          | 等価回路<br>Equivalent Circuit | マーク形名<br>表示<br>Marking Indication |     |     |                          |  |     |
|-----------------------------------------------------------------------------------|-------------|-----------------|--------------------|--------------------|-------------------------|------------------------|------------------------|---------------------------|----------------------------|-----------------------------------|-----|-----|--------------------------|--|-----|
|                                                                                   |             |                 |                    |                    | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                           |                            |                                   |     |     |                          |  |     |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | NPN<br>× 2  | RT2N01M         | R1=2.2kΩ, R2=2.2kΩ | R1=2.2kΩ, R2=2.2kΩ | 50                      | 100                    | 200                    | SC-88A<br>(SC-70<br>5Pin) |                            | NB                                |     |     |                          |  |     |
|                                                                                   |             | RT2N02M         | R1=4.7kΩ, R2=4.7kΩ | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                           |                            | NF                                |     |     |                          |  |     |
|                                                                                   |             | RT2N03M         | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=10kΩ   |                         |                        |                        |                           |                            | N1                                |     |     |                          |  |     |
|                                                                                   |             | RT2N04M         | R1=22kΩ, R2=22kΩ   | R1=22kΩ, R2=22kΩ   |                         |                        |                        |                           |                            | N2                                |     |     |                          |  |     |
|                                                                                   |             | RT2N05M         | R1=47kΩ, R2=47kΩ   | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | N3                                |     |     |                          |  |     |
|                                                                                   |             | RT2N06M         | R1=100kΩ, R2=100kΩ | R1=100kΩ, R2=100kΩ |                         |                        |                        |                           |                            | NA                                |     |     |                          |  |     |
|                                                                                   |             | RT2N07M         | R1=1kΩ, R2=10kΩ    | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                           |                            | NC                                |     |     |                          |  |     |
|                                                                                   |             | RT2N08M         | R1=2.2kΩ, R2=10kΩ  | R1=2.2kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | NE                                |     |     |                          |  |     |
|                                                                                   |             | RT2N09M         | R1=2.2kΩ, R2=47kΩ  | R1=2.2kΩ, R2=47kΩ  |                         |                        |                        |                           |                            | ND                                |     |     |                          |  |     |
|                                                                                   |             | RT2N10M         | R1=4.7kΩ, R2=10kΩ  | R1=4.7kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | NG                                |     |     |                          |  |     |
|                                                                                   |             | RT2N11M         | R1=4.7kΩ, R2=22kΩ  | R1=4.7kΩ, R2=22kΩ  |                         |                        |                        |                           |                            | N4                                |     |     |                          |  |     |
|                                                                                   |             | RT2N12M         | R1=4.7kΩ, R2=47kΩ  | R1=4.7kΩ, R2=47kΩ  |                         |                        |                        |                           |                            | NH                                |     |     |                          |  |     |
|                                                                                   |             | RT2N13M         | R1=10kΩ, R2=4.7kΩ  | R1=10kΩ, R2=4.7kΩ  |                         |                        |                        |                           |                            | NJ                                |     |     |                          |  |     |
|                                                                                   |             | RT2N14M         | R1=10kΩ, R2=47kΩ   | R1=10kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | N5                                |     |     |                          |  |     |
|                                                                                   |             | RT2N15M         | R1=22kΩ, R2=47kΩ   | R1=22kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | NK                                |     |     |                          |  |     |
|                                                                                   |             | RT2N16M         | R1=47kΩ, R2=10kΩ   | R1=47kΩ, R2=10kΩ   |                         |                        |                        |                           |                            | NM                                |     |     |                          |  |     |
|                                                                                   |             | RT2N17M         | R1=47kΩ, R2=22kΩ   | R1=47kΩ, R2=22kΩ   |                         |                        |                        |                           |                            | NN                                |     |     |                          |  |     |
|                                                                                   |             | RT2N18M         | R1=1kΩ             | R1=1kΩ             |                         |                        |                        |                           |                            | NP                                |     |     |                          |  |     |
|                                                                                   |             | RT2N19M         | R1=2.2kΩ           | R1=2.2kΩ           |                         |                        |                        |                           |                            | NL                                |     |     |                          |  |     |
|                                                                                   |             | RT2N20M         | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        |                           |                            | N6                                |     |     |                          |  |     |
|                                                                                   |             | RT2N21M         | R1=10kΩ            | R1=10kΩ            |                         |                        |                        |                           |                            | N7                                |     |     |                          |  |     |
|                                                                                   |             | RT2N22M         | R1=22kΩ            | R1=22kΩ            |                         |                        |                        |                           |                            | NQ                                |     |     |                          |  |     |
|                                                                                   |             | RT2N23M         | R1=47kΩ            | R1=47kΩ            |                         |                        |                        |                           |                            | NR                                |     |     |                          |  |     |
|                                                                                   |             | RT2N24M         | R1=100kΩ           | R1=100kΩ           |                         |                        |                        |                           |                            | NS                                |     |     |                          |  |     |
|                                                                                   |             | RT2N25M         | R1=200kΩ           | R1=200kΩ           |                         |                        |                        |                           |                            | NT                                |     |     |                          |  |     |
|                                                                                   |             | RT2N26M         | R2=10kΩ            | R2=10kΩ            |                         |                        |                        |                           |                            | NU                                |     |     |                          |  |     |
|                                                                                   |             | RT2N27M         | R2=22kΩ            | R2=22kΩ            |                         |                        |                        |                           |                            | NV                                |     |     |                          |  |     |
|                                                                                   |             | RT2N28M         | R2=47kΩ            | R2=47kΩ            |                         |                        |                        |                           |                            | NW                                |     |     |                          |  |     |
|                                                                                   |             | RT2N29M         | R2=100kΩ           | R2=100kΩ           |                         |                        |                        |                           |                            | NX                                |     |     |                          |  |     |
| 抵抗入りトランジスタ<br>ミュートング用<br>Resistance built-in<br>transistor<br>(for muting)        |             | RT2N62M         | R1=2.2kΩ           | R1=2.2kΩ           | 20                      | 400                    |                        |                           |                            |                                   | N62 |     |                          |  |     |
|                                                                                   |             | RT2N63M         | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        |                           |                            |                                   | N63 |     |                          |  |     |
|                                                                                   |             | RT2N65M         | R1=22kΩ            | R1=10kΩ            |                         |                        |                        |                           |                            |                                   | N65 |     |                          |  |     |
| 汎用トランジスタ<br>General purpose                                                       |             | RT2C00M         | 2SC4154            | 2SC4154            | 50                      | 100                    |                        | 200                       | SC-88<br>(SC-70<br>6pin)   |                                   | L*  |     |                          |  |     |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) |             | RT3NBBM         | R1=2.2kΩ, R2=2.2kΩ | R1=2.2kΩ, R2=2.2kΩ |                         |                        |                        |                           |                            |                                   | 50  | 100 | SC-88<br>(SC-70<br>6pin) |  | NBB |
|                                                                                   |             | RT3NFFM         | R1=4.7kΩ, R2=4.7kΩ | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NFF |
|                                                                                   |             | RT3N11M         | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=10kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N11 |
|                                                                                   |             | RT3N22M         | R1=22kΩ, R2=22kΩ   | R1=22kΩ, R2=22kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N22 |
|                                                                                   |             | RT3N33M         | R1=47kΩ, R2=47kΩ   | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N33 |
|                                                                                   |             | RT3NAAM         | R1=100kΩ, R2=100kΩ | R1=100kΩ, R2=100kΩ |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NAA |
|                                                                                   |             | RT3NCCM         | R1=1kΩ, R2=10kΩ    | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NCC |
|                                                                                   |             | RT3NEEM         | R1=2.2kΩ, R2=10kΩ  | R1=2.2kΩ, R2=10kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NEE |
|                                                                                   |             | RT3NDDM         | R1=2.2kΩ, R2=47kΩ  | R1=2.2kΩ, R2=47kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NDD |
|                                                                                   |             | RT3NGGM         | R1=4.7kΩ, R2=10kΩ  | R1=4.7kΩ, R2=10kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NGG |
|                                                                                   |             | RT3N44M         | R1=4.7kΩ, R2=22kΩ  | R1=4.7kΩ, R2=22kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N44 |
|                                                                                   |             | RT3NHHM         | R1=4.7kΩ, R2=47kΩ  | R1=4.7kΩ, R2=47kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NHH |
|                                                                                   |             | RT3NJJM         | R1=10kΩ, R2=4.7kΩ  | R1=10kΩ, R2=4.7kΩ  |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NJJ |
|                                                                                   |             | RT3N55M         | R1=10kΩ, R2=47kΩ   | R1=10kΩ, R2=47kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N55 |
|                                                                                   |             | RT3NKKM         | R1=22kΩ, R2=47kΩ   | R1=22kΩ, R2=47kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NKK |
|                                                                                   |             | RT3NMMM         | R1=47kΩ, R2=10kΩ   | R1=47kΩ, R2=10kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NMM |
|                                                                                   |             | RT3NNNM         | R1=47kΩ, R2=22kΩ   | R1=47kΩ, R2=22kΩ   |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NNN |
|                                                                                   |             | RT3NPPM         | R1=1kΩ             | R1=1kΩ             |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NPP |
|                                                                                   |             | RT3NLLM         | R1=2.2kΩ           | R1=2.2kΩ           |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NLL |
|                                                                                   |             | RT3N66M         | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N66 |
|                                                                                   |             | RT3N77M         | R1=10kΩ            | R1=10kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | N77 |
|                                                                                   |             | RT3NQQM         | R1=22kΩ            | R1=22kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NQQ |
|                                                                                   |             | RT3NRRM         | R1=47kΩ            | R1=47kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NRR |
|                                                                                   |             | RT3NSSM         | R1=100kΩ           | R1=100kΩ           |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NSS |
|                                                                                   |             | RT3NTTM         | R1=200kΩ           | R1=200kΩ           |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NTT |
|                                                                                   |             | RT3NUUM         | R2=10kΩ            | R2=10kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NUU |
|                                                                                   |             | RT3NVVM         | R2=22kΩ            | R2=22kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NVV |
|                                                                                   |             | RT3NWWW         | R2=47kΩ            | R2=47kΩ            |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NWW |
|                                                                                   |             | RT3NXXM         | R2=100kΩ           | R2=100kΩ           |                         |                        |                        |                           |                            |                                   |     |     |                          |  | NXX |

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# 用途別一覧

## Application Guide

### ● 複合トランジスタ Composite Transistors

| 用 途<br>Use                                                                        | タイプ<br>Type                                                                       | 形名<br>Type Name   | TR1                | TR2                | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package          | 等価回路<br>Equivalent Circuit | マーク形名<br>表示<br>Marking Indication |     |      |       |  |    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|--------------------|--------------------|-------------------------|------------------------|------------------------|---------------------------|----------------------------|-----------------------------------|-----|------|-------|--|----|
|                                                                                   |                                                                                   |                   |                    |                    | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                           |                            |                                   |     |      |       |  |    |
| 抵抗入りトランジスタ<br>ミュート用<br>Resistance<br>built-in transistor<br>(for muting)          | NPN<br>× 2                                                                        | RT3X99M           | R1=2.2kΩ           | R1=2.2kΩ           | 20                      | 400                    | 150                    | SC-88<br>(SC-70<br>6pin)  |                            | X99                               |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3XAAM           | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        |                           |                            | XAA                               |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3XBBM           | R1=10kΩ            | R1=10kΩ            |                         |                        |                        |                           |                            | XBB                               |     |      |       |  |    |
| トランジスタ汎用<br>General purpose                                                       |                                                                                   | RT3CLLM           | 2SC4154            | 2SC4154            | 50                      | 200                    | 200                    |                           |                            | CLL                               |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3C66M           | INC6006AC1         | INC6006AC1         | 160                     | 100                    |                        |                           |                            | C66                               |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3C88M           | INC6017AM1         | INC6017AM1         | 160                     | 100                    |                        |                           |                            | C88                               |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3C77M●          | 2SC6120            | 2SC6120            | 40                      | 600                    |                        |                           |                            | C77                               |     |      |       |  |    |
| ミュートトランジスタ<br>For mute                                                            |                                                                                   | RT3CXXM           | INC2002AM1         | INC2002AM1         | 20                      | 600                    | 150                    |                           |                            | CXX                               |     |      |       |  |    |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) |                                                                                   | RT3NBBU           | R1=2.2kΩ, R2=2.2kΩ | R1=2.2kΩ, R2=2.2kΩ | 50                      | 100                    | 150*                   | USM6F                     |                            | BB                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NFFU           | R1=4.7kΩ, R2=4.7kΩ | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                           |                            | FF                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3N11U           | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=10kΩ   |                         |                        |                        |                           |                            | 11                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3N22U           | R1=22kΩ, R2=22kΩ   | R1=22kΩ, R2=22kΩ   |                         |                        |                        |                           |                            | 22                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3N33U           | R1=47kΩ, R2=47kΩ   | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | 33                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NAAU           | R1=100kΩ, R2=100kΩ | R1=100kΩ, R2=100kΩ |                         |                        |                        |                           |                            | AA                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NCCU           | R1=1kΩ, R2=10kΩ    | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                           |                            | CC                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NEEU           | R1=2.2kΩ, R2=10kΩ  | R1=2.2kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | EE                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NDDU           | R1=2.2kΩ, R2=47kΩ  | R1=2.2kΩ, R2=47kΩ  |                         |                        |                        |                           |                            | DD                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3NGGU           | R1=4.7kΩ, R2=10kΩ  | R1=4.7kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | GG                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT3N44U           | R1=4.7kΩ, R2=22kΩ  | R1=4.7kΩ, R2=22kΩ  |                         |                        |                        |                           |                            | 44                                |     |      |       |  |    |
|                                                                                   | RT3NHHU                                                                           | R1=4.7kΩ, R2=47kΩ | R1=4.7kΩ, R2=47kΩ  | HH                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | RT3NJJU                                                                           | R1=10kΩ, R2=4.7kΩ | R1=10kΩ, R2=4.7kΩ  | JJ                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | RT3N55U                                                                           | R1=10kΩ, R2=47kΩ  | R1=10kΩ, R2=47kΩ   | 55                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | RT3NKKU                                                                           | R1=22kΩ, R2=47kΩ  | R1=22kΩ, R2=47kΩ   | KK                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | RT3NMMU                                                                           | R1=47kΩ, R2=10kΩ  | R1=47kΩ, R2=10kΩ   | MM                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | RT3NNUU                                                                           | R1=47kΩ, R2=22kΩ  | R1=47kΩ, R2=22kΩ   | NN                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
|                                                                                   | 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | RT3NPPU           | R1=1kΩ             | R1=1kΩ             |                         |                        |                        |                           |                            | 50                                | 100 | 150* | USM6F |  | PP |
|                                                                                   |                                                                                   | RT3NLLU           | R1=2.2kΩ           | R1=2.2kΩ           |                         |                        |                        |                           |                            |                                   |     |      |       |  | LL |
|                                                                                   |                                                                                   | RT3N66U           | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        | 66                        |                            |                                   |     |      |       |  |    |
| RT3N77U                                                                           |                                                                                   | R1=10kΩ           | R1=10kΩ            | 77                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NQQU                                                                           |                                                                                   | R1=22kΩ           | R1=22kΩ            | QQ                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NRRU                                                                           |                                                                                   | R1=47kΩ           | R1=47kΩ            | RR                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NSSU                                                                           |                                                                                   | R1=100kΩ          | R1=100kΩ           | SS                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NTTU                                                                           |                                                                                   | R1=200kΩ          | R1=200kΩ           | TT                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NUUU                                                                           |                                                                                   | R2=10kΩ           | R2=10kΩ            | UU                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NVVU                                                                           |                                                                                   | R2=22kΩ           | R2=22kΩ            | VV                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NWWU                                                                           |                                                                                   | R2=47kΩ           | R2=47kΩ            | WW                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| RT3NXXU                                                                           |                                                                                   | R2=100kΩ          | R2=100kΩ           | XX                 |                         |                        |                        |                           |                            |                                   |     |      |       |  |    |
| 汎用トランジスタ<br>General purpose                                                       |                                                                                   | RT3CLLU           | 2SC4154            | 2SC4154            | 200                     |                        |                        |                           | LL                         |                                   |     |      |       |  |    |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | PNP<br>× 2                                                                        | RT2P01M           | R1=2.2kΩ, R2=2.2kΩ | R1=2.2kΩ, R2=2.2kΩ | 50                      | 100                    | 200                    | SC-88A<br>(SC-70<br>5pin) |                            | PB                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P02M           | R1=4.7kΩ, R2=4.7kΩ | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                           |                            | PF                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P03M           | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=10kΩ   |                         |                        |                        |                           |                            | P1                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P04M           | R1=22kΩ, R2=22kΩ   | R1=22kΩ, R2=22kΩ   |                         |                        |                        |                           |                            | P2                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P05M           | R1=47kΩ, R2=47kΩ   | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | P3                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P06M           | R1=100kΩ, R2=100kΩ | R1=100kΩ, R2=100kΩ |                         |                        |                        |                           |                            | PA                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P07M           | R1=1kΩ, R2=10kΩ    | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                           |                            | PC                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P08M           | R1=2.2kΩ, R2=10kΩ  | R1=2.2kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | PE                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P09M           | R1=2.2kΩ, R2=47kΩ  | R1=2.2kΩ, R2=47kΩ  |                         |                        |                        |                           |                            | PD                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P10M           | R1=4.7kΩ, R2=10kΩ  | R1=4.7kΩ, R2=10kΩ  |                         |                        |                        |                           |                            | PG                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P11M           | R1=4.7kΩ, R2=22kΩ  | R1=4.7kΩ, R2=22kΩ  |                         |                        |                        |                           |                            | P4                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P12M           | R1=4.7kΩ, R2=47kΩ  | R1=4.7kΩ, R2=47kΩ  |                         |                        |                        |                           |                            | PH                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P13M           | R1=10kΩ, R2=4.7kΩ  | R1=10kΩ, R2=4.7kΩ  |                         |                        |                        |                           |                            | PJ                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P14M           | R1=10kΩ, R2=47kΩ   | R1=10kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | P5                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P15M           | R1=22kΩ, R2=47kΩ   | R1=22kΩ, R2=47kΩ   |                         |                        |                        |                           |                            | PK                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P16M           | R1=47kΩ, R2=10kΩ   | R1=47kΩ, R2=10kΩ   |                         |                        |                        |                           |                            | PM                                |     |      |       |  |    |
|                                                                                   |                                                                                   | RT2P17M           | R1=47kΩ, R2=22kΩ   | R1=47kΩ, R2=22kΩ   |                         |                        |                        |                           |                            | PN                                |     |      |       |  |    |

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\* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

### ● 複合トランジスタ Composite Transistors

| 用途<br>Use                                                                         | タイプ<br>Type | 形名<br>Type Name | TR1                                 | TR2                                 | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package          | 等価回路<br>Equivalent<br>Circuit | マーク形名<br>表示<br>Marking<br>Indication |
|-----------------------------------------------------------------------------------|-------------|-----------------|-------------------------------------|-------------------------------------|-------------------------|------------------------|------------------------|---------------------------|-------------------------------|--------------------------------------|
|                                                                                   |             |                 |                                     |                                     | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                           |                               |                                      |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | PNP<br>× 2  | RT2P18M         | R1=1k $\Omega$                      | R1=1k $\Omega$                      | 50                      | 100                    | 200                    | SC-88A<br>(SC-70<br>5pin) |                               | PP                                   |
|                                                                                   |             | RT2P19M         | R1=2.2k $\Omega$                    | R1=2.2k $\Omega$                    |                         |                        |                        |                           |                               | PL                                   |
|                                                                                   |             | RT2P20M         | R1=4.7k $\Omega$                    | R1=4.7k $\Omega$                    |                         |                        |                        |                           |                               | P6                                   |
|                                                                                   |             | RT2P21M         | R1=10k $\Omega$                     | R1=10k $\Omega$                     |                         |                        |                        |                           |                               | P7                                   |
|                                                                                   |             | RT2P22M         | R1=22k $\Omega$                     | R1=22k $\Omega$                     |                         |                        |                        |                           |                               | PQ                                   |
|                                                                                   |             | RT2P23M         | R1=47k $\Omega$                     | R1=47k $\Omega$                     |                         |                        |                        |                           |                               | PR                                   |
|                                                                                   |             | RT2P24M         | R1=100k $\Omega$                    | R1=100k $\Omega$                    |                         |                        |                        |                           |                               | PS                                   |
|                                                                                   |             | RT2P25M         | R1=200k $\Omega$                    | R1=200k $\Omega$                    |                         |                        |                        |                           |                               | PT                                   |
|                                                                                   |             | RT2P26M         | R2=10k $\Omega$                     | R2=10k $\Omega$                     |                         |                        |                        |                           |                               | PU                                   |
|                                                                                   |             | RT2P27M         | R2=22k $\Omega$                     | R2=22k $\Omega$                     |                         |                        |                        |                           |                               | PV                                   |
|                                                                                   |             | RT2P28M         | R2=47k $\Omega$                     | R2=47k $\Omega$                     |                         |                        |                        |                           |                               | PW                                   |
|                                                                                   |             | RT2P29M         | R2=100k $\Omega$                    | R2=100k $\Omega$                    |                         |                        |                        |                           |                               | PX                                   |
| 汎用トランジスタ<br>General purpose                                                       |             | RT2A00AM1       | ISA1602AM1                          | ISA1602AM1                          |                         | 200                    |                        |                           |                               | ・M*                                  |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | PNP<br>× 2  | RT3PBBM         | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | 50                      | 100                    | 200                    | SC-88<br>(SC-70<br>6pin)  |                               | PBB                                  |
|                                                                                   |             | RT3PFFM         | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ |                         |                        |                        |                           |                               | PFF                                  |
|                                                                                   |             | RT3P11M         | R1=10k $\Omega$ , R2=10k $\Omega$   | R1=10k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                           |                               | P11                                  |
|                                                                                   |             | RT3P22M         | R1=22k $\Omega$ , R2=22k $\Omega$   | R1=22k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                           |                               | P22                                  |
|                                                                                   |             | RT3P33M         | R1=47k $\Omega$ , R2=47k $\Omega$   | R1=47k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                           |                               | P33                                  |
|                                                                                   |             | RT3PAAM         | R1=100k $\Omega$ , R2=100k $\Omega$ | R1=100k $\Omega$ , R2=100k $\Omega$ |                         |                        |                        |                           |                               | PAA                                  |
|                                                                                   |             | RT3PCCM         | R1=1k $\Omega$ , R2=10k $\Omega$    | R1=1k $\Omega$ , R2=10k $\Omega$    |                         |                        |                        |                           |                               | PCC                                  |
|                                                                                   |             | RT3PEEM         | R1=2.2k $\Omega$ , R2=10k $\Omega$  | R1=2.2k $\Omega$ , R2=10k $\Omega$  |                         |                        |                        |                           |                               | PEE                                  |
|                                                                                   |             | RT3PDDM         | R1=2.2k $\Omega$ , R2=47k $\Omega$  | R1=2.2k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                           |                               | PDD                                  |
|                                                                                   |             | RT3PGGM         | R1=4.7k $\Omega$ , R2=10k $\Omega$  | R1=4.7k $\Omega$ , R2=10k $\Omega$  |                         |                        |                        |                           |                               | PGG                                  |
|                                                                                   |             | RT3P44M         | R1=4.7k $\Omega$ , R2=22k $\Omega$  | R1=4.7k $\Omega$ , R2=22k $\Omega$  |                         |                        |                        |                           |                               | P44                                  |
|                                                                                   |             | RT3PHHM         | R1=4.7k $\Omega$ , R2=47k $\Omega$  | R1=4.7k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                           |                               | PHH                                  |
|                                                                                   |             | RT3PJJM         | R1=10k $\Omega$ , R2=4.7k $\Omega$  | R1=10k $\Omega$ , R2=4.7k $\Omega$  |                         |                        |                        |                           |                               | PJJ                                  |
|                                                                                   |             | RT3P55M         | R1=10k $\Omega$ , R2=47k $\Omega$   | R1=10k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                           |                               | P55                                  |
|                                                                                   |             | RT3PKKM         | R1=22k $\Omega$ , R2=47k $\Omega$   | R1=22k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                           |                               | PKK                                  |
|                                                                                   |             | RT3PMMM         | R1=47k $\Omega$ , R2=10k $\Omega$   | R1=47k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                           |                               | PMM                                  |
|                                                                                   |             | RT3PNNM         | R1=47k $\Omega$ , R2=22k $\Omega$   | R1=47k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                           |                               | PNN                                  |
|                                                                                   |             | RT3PPPM         | R1=1k $\Omega$                      | R1=1k $\Omega$                      |                         |                        |                        |                           |                               | PPP                                  |
|                                                                                   |             | RT3PLLM         | R1=2.2k $\Omega$                    | R1=2.2k $\Omega$                    |                         |                        |                        |                           |                               | PLL                                  |
|                                                                                   |             | RT3P66M         | R1=4.7k $\Omega$                    | R1=4.7k $\Omega$                    |                         |                        |                        |                           |                               | P66                                  |
|                                                                                   |             | RT3P77M         | R1=10k $\Omega$                     | R1=10k $\Omega$                     |                         |                        |                        |                           |                               | P77                                  |
|                                                                                   |             | RT3PQQM         | R1=22k $\Omega$                     | R1=22k $\Omega$                     |                         |                        |                        |                           |                               | PQQ                                  |
|                                                                                   |             | RT3PRRM         | R1=47k $\Omega$                     | R1=47k $\Omega$                     |                         |                        |                        |                           |                               | PRR                                  |
|                                                                                   |             | RT3PSSM         | R1=100k $\Omega$                    | R1=100k $\Omega$                    |                         |                        |                        |                           |                               | PSS                                  |
|                                                                                   |             | RT3PTTM         | R1=200k $\Omega$                    | R1=200k $\Omega$                    |                         |                        |                        |                           |                               | PTT                                  |
|                                                                                   |             | RT3PUUM         | R2=10k $\Omega$                     | R2=10k $\Omega$                     |                         |                        |                        |                           |                               | PUU                                  |
|                                                                                   |             | RT3PVVM         | R2=22k $\Omega$                     | R2=22k $\Omega$                     |                         |                        |                        |                           |                               | PVV                                  |
|                                                                                   |             | RT3PWWM         | R2=47k $\Omega$                     | R2=47k $\Omega$                     |                         |                        |                        |                           |                               | PWW                                  |
|                                                                                   |             | RT3PXXM         | R2=100k $\Omega$                    | R2=100k $\Omega$                    |                         |                        |                        |                           |                               | PXX                                  |
| 汎用トランジスタ<br>General purpose                                                       |             | RT3AMMAM1       | ISA1602AM1                          | ISA1602AM1                          | 50                      | 200                    |                        |                           |                               | AA*                                  |
|                                                                                   |             | RT3A66M         | INA6006AC1                          | INA6006AC1                          | 150                     | 100                    |                        |                           |                               | A66                                  |
|                                                                                   |             | RT3A77M●        | ISA2166AM1                          | ISA2166AM1                          | 60                      | 500                    |                        |                           |                               | A77                                  |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) |             | RT3PBBU         | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | 50                      | 100                    | 150*                   | USM6F                     |                               | BB                                   |
|                                                                                   |             | RT3PFFU         | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ |                         |                        |                        |                           |                               | FF                                   |
|                                                                                   |             | RT3P11U         | R1=10k $\Omega$ , R2=10k $\Omega$   | R1=10k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                           |                               | 11                                   |
|                                                                                   |             | RT3P22U         | R1=22k $\Omega$ , R2=22k $\Omega$   | R1=22k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                           |                               | 22                                   |
|                                                                                   |             | RT3P33U         | R1=47k $\Omega$ , R2=47k $\Omega$   | R1=47k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                           |                               | 33                                   |
|                                                                                   |             | RT3PAAU         | R1=100k $\Omega$ , R2=100k $\Omega$ | R1=100k $\Omega$ , R2=100k $\Omega$ |                         |                        |                        |                           |                               | AA                                   |
|                                                                                   |             | RT3PCCU         | R1=1k $\Omega$ , R2=10k $\Omega$    | R1=1k $\Omega$ , R2=10k $\Omega$    |                         |                        |                        |                           |                               | CC                                   |

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\* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

### ● 複合トランジスタ Composite Transistors

| 用途<br>Use                                                                         | タイプ<br>Type     | 形名<br>Type Name | TR1                                 | TR2                                 | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package         | 等価回路<br>Equivalent Circuit | マーク形名<br>表示<br>Marking Indication |
|-----------------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-------------------------------------|-------------------------|------------------------|------------------------|--------------------------|----------------------------|-----------------------------------|
|                                                                                   |                 |                 |                                     |                                     | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                          |                            |                                   |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | PNP<br>× 2      | RT3PEEU         | R1=2.2k $\Omega$ , R2=10k $\Omega$  | R1=2.2k $\Omega$ , R2=10k $\Omega$  | 50                      | 100                    | 150*                   | USM6F                    |                            | EE                                |
|                                                                                   |                 | RT3PDDU         | R1=2.2k $\Omega$ , R2=47k $\Omega$  | R1=2.2k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                          |                            | DD                                |
|                                                                                   |                 | RT3PGGU         | R1=4.7k $\Omega$ , R2=10k $\Omega$  | R1=4.7k $\Omega$ , R2=10k $\Omega$  |                         |                        |                        |                          |                            | GG                                |
|                                                                                   |                 | RT3P44U         | R1=4.7k $\Omega$ , R2=22k $\Omega$  | R1=4.7k $\Omega$ , R2=22k $\Omega$  |                         |                        |                        |                          |                            | 44                                |
|                                                                                   |                 | RT3PHHU         | R1=4.7k $\Omega$ , R2=47k $\Omega$  | R1=4.7k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                          |                            | HH                                |
|                                                                                   |                 | RT3PJJU         | R1=10k $\Omega$ , R2=4.7k $\Omega$  | R1=10k $\Omega$ , R2=4.7k $\Omega$  |                         |                        |                        |                          |                            | JJ                                |
|                                                                                   |                 | RT3P55U         | R1=10k $\Omega$ , R2=47k $\Omega$   | R1=10k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                          |                            | 55                                |
|                                                                                   |                 | RT3PKKU         | R1=22k $\Omega$ , R2=47k $\Omega$   | R1=22k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                          |                            | KK                                |
|                                                                                   |                 | RT3PMMU         | R1=47k $\Omega$ , R2=10k $\Omega$   | R1=47k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                          |                            | MM                                |
|                                                                                   |                 | RT3PNNU         | R1=47k $\Omega$ , R2=22k $\Omega$   | R1=47k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                          |                            | NN                                |
|                                                                                   |                 | RT3PPPU         | R1=1k $\Omega$                      | R1=1k $\Omega$                      |                         |                        |                        |                          |                            | PP                                |
|                                                                                   |                 | RT3PLLU         | R1=2.2k $\Omega$                    | R1=2.2k $\Omega$                    |                         |                        |                        |                          |                            | LL                                |
|                                                                                   |                 | RT3P66U         | R1=4.7k $\Omega$                    | R1=4.7k $\Omega$                    |                         |                        |                        |                          |                            | 66                                |
|                                                                                   |                 | RT3P77U         | R1=10k $\Omega$                     | R1=10k $\Omega$                     |                         |                        |                        |                          |                            | 77                                |
|                                                                                   |                 | RT3PQUU         | R1=22k $\Omega$                     | R1=22k $\Omega$                     |                         |                        |                        |                          |                            | QQ                                |
|                                                                                   |                 | RT3PRRU         | R1=47k $\Omega$                     | R1=47k $\Omega$                     |                         |                        |                        |                          |                            | RR                                |
|                                                                                   |                 | RT3PSSU         | R1=100k $\Omega$                    | R1=100k $\Omega$                    |                         |                        |                        |                          |                            | SS                                |
|                                                                                   |                 | RT3PTTU         | R1=200k $\Omega$                    | R1=200k $\Omega$                    |                         |                        |                        |                          |                            | TT                                |
|                                                                                   |                 | RT3PUUU         | R2=10k $\Omega$                     | R2=10k $\Omega$                     |                         |                        |                        |                          |                            | UU                                |
|                                                                                   |                 | RT3PVVU         | R2=22k $\Omega$                     | R2=22k $\Omega$                     |                         |                        |                        |                          |                            | VV                                |
|                                                                                   |                 | RT3PWWU         | R2=47k $\Omega$                     | R2=47k $\Omega$                     |                         |                        |                        |                          |                            | WW                                |
|                                                                                   |                 | RT3PXXU         | R2=100k $\Omega$                    | R2=100k $\Omega$                    |                         |                        |                        |                          |                            | XX                                |
| 汎用トランジスタ<br>General purpose                                                       |                 | RT3AMMU         | ISA1602AM1                          | ISA1602AM1                          |                         | 150                    |                        |                          |                            | MM                                |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | NPN<br>+<br>PNP | RT3TBBM         | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | R1=2.2k $\Omega$ , R2=2.2k $\Omega$ | 50                      | 100                    | 200                    | SC-88<br>(SC-70<br>6pin) |                            | TBB                               |
|                                                                                   |                 | RT3TFFM         | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ | R1=4.7k $\Omega$ , R2=4.7k $\Omega$ |                         |                        |                        |                          |                            | TFF                               |
|                                                                                   |                 | RT3T11M         | R1=10k $\Omega$ , R2=10k $\Omega$   | R1=10k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                          |                            | T11                               |
|                                                                                   |                 | RT3T22M         | R1=22k $\Omega$ , R2=22k $\Omega$   | R1=22k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                          |                            | T22                               |
|                                                                                   |                 | RT3T33M         | R1=47k $\Omega$ , R2=47k $\Omega$   | R1=47k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                          |                            | T33                               |
|                                                                                   |                 | RT3TAAM         | R1=100k $\Omega$ , R2=100k $\Omega$ | R1=100k $\Omega$ , R2=100k $\Omega$ |                         |                        |                        |                          |                            | TAA                               |
|                                                                                   |                 | RT3TCCM         | R1=1k $\Omega$ , R2=10k $\Omega$    | R1=1k $\Omega$ , R2=10k $\Omega$    |                         |                        |                        |                          |                            | TCC                               |
|                                                                                   |                 | RT3TEEM         | R1=2.2k $\Omega$ , R2=10k $\Omega$  | R1=2.2k $\Omega$ , R2=10k $\Omega$  |                         |                        |                        |                          |                            | TEE                               |
|                                                                                   |                 | RT3TDDM         | R1=2.2k $\Omega$ , R2=47k $\Omega$  | R1=2.2k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                          |                            | TDD                               |
|                                                                                   |                 | RT3TGGM         | R1=4.7k $\Omega$ , R2=10k $\Omega$  | R1=4.7k $\Omega$ , R2=10k $\Omega$  |                         |                        |                        |                          |                            | TGG                               |
|                                                                                   |                 | RT3T44M         | R1=4.7k $\Omega$ , R2=22k $\Omega$  | R1=4.7k $\Omega$ , R2=22k $\Omega$  |                         |                        |                        |                          |                            | T44                               |
|                                                                                   |                 | RT3THHM         | R1=4.7k $\Omega$ , R2=47k $\Omega$  | R1=4.7k $\Omega$ , R2=47k $\Omega$  |                         |                        |                        |                          |                            | THH                               |
|                                                                                   |                 | RT3TJJM         | R1=10k $\Omega$ , R2=4.7k $\Omega$  | R1=10k $\Omega$ , R2=4.7k $\Omega$  |                         |                        |                        |                          |                            | TJJ                               |
|                                                                                   |                 | RT3T14M         | R1=10k $\Omega$ , R2=47k $\Omega$   | R1=10k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                          |                            | T55                               |
|                                                                                   |                 | RT3TKKM         | R1=22k $\Omega$ , R2=47k $\Omega$   | R1=22k $\Omega$ , R2=47k $\Omega$   |                         |                        |                        |                          |                            | TKK                               |
|                                                                                   |                 | RT3TMMM         | R1=47k $\Omega$ , R2=10k $\Omega$   | R1=47k $\Omega$ , R2=10k $\Omega$   |                         |                        |                        |                          |                            | TMM                               |
|                                                                                   |                 | RT3TNNM         | R1=47k $\Omega$ , R2=22k $\Omega$   | R1=47k $\Omega$ , R2=22k $\Omega$   |                         |                        |                        |                          |                            | TNN                               |
|                                                                                   |                 | RT3TPPM         | R1=1k $\Omega$                      | R1=1k $\Omega$                      |                         |                        |                        |                          |                            | TPP                               |
|                                                                                   |                 | RT3TLLM         | R1=2.2k $\Omega$                    | R1=2.2k $\Omega$                    |                         |                        |                        |                          |                            | TLL                               |
|                                                                                   |                 | RT3T66M         | R1=4.7k $\Omega$                    | R1=4.7k $\Omega$                    |                         |                        |                        |                          |                            | T66                               |
|                                                                                   |                 | RT3T77M         | R1=10k $\Omega$                     | R1=10k $\Omega$                     |                         |                        |                        |                          |                            | T77                               |
|                                                                                   |                 | RT3TQQM         | R1=22k $\Omega$                     | R1=22k $\Omega$                     |                         |                        |                        |                          |                            | TQQ                               |
|                                                                                   |                 | RT3TRRM         | R1=47k $\Omega$                     | R1=47k $\Omega$                     |                         |                        |                        |                          |                            | TRR                               |
|                                                                                   |                 | RT3TSSM         | R1=100k $\Omega$                    | R1=100k $\Omega$                    |                         |                        |                        |                          |                            | TSS                               |
|                                                                                   |                 | RT3TTTM         | R1=200k $\Omega$                    | R1=200k $\Omega$                    |                         |                        |                        |                          |                            | TTT                               |
|                                                                                   |                 | RT3TUUM         | R2=10k $\Omega$                     | R2=10k $\Omega$                     |                         |                        |                        |                          |                            | TUU                               |
|                                                                                   |                 | RT3TVVM         | R2=22k $\Omega$                     | R2=22k $\Omega$                     |                         |                        |                        |                          |                            | TVV                               |
|                                                                                   |                 | RT3TWWM         | R2=47k $\Omega$                     | R2=47k $\Omega$                     |                         |                        |                        |                          |                            | TWW                               |
|                                                                                   |                 | RT3TXXM         | R2=100k $\Omega$                    | R2=100k $\Omega$                    |                         |                        |                        |                          |                            | TXX                               |

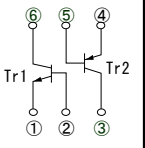
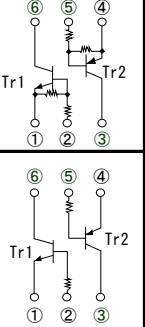
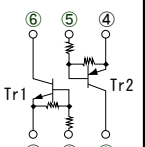
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\* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

# 用途別一覧

## Application Guide

### ● 複合トランジスタ Composite Transistors

| 用途<br>Use                                                                         | タイプ<br>Type     | 形名<br>Type Name | TR1                | TR2                | 最大定格<br>Max. Ratings    |                        |                        | パッケージ<br>Package      | 等価回路<br>Equivalent<br>Circuit                                                         | マーク形名<br>表示<br>Marking<br>Indication |
|-----------------------------------------------------------------------------------|-----------------|-----------------|--------------------|--------------------|-------------------------|------------------------|------------------------|-----------------------|---------------------------------------------------------------------------------------|--------------------------------------|
|                                                                                   |                 |                 |                    |                    | V <sub>CEO</sub><br>(V) | I <sub>c</sub><br>(mA) | P <sub>c</sub><br>(mW) |                       |                                                                                       |                                      |
| 汎用トランジスタ<br>General purpose                                                       |                 | RT3WLMM         | 2SC4154            | ISA1602AM1         | NPN : 50<br>PNP : 60    | 200                    | 200                    | SC-88<br>(SC-70 6pin) |    | WLM                                  |
|                                                                                   |                 | RT3WLMU         |                    |                    |                         | 200                    | 150*                   | USM6F                 |                                                                                       | LM                                   |
|                                                                                   |                 | RT3W77M●        | 2SC6120            | ISA2166AM1         | NPN : 40<br>PNP : 60    | NPN : 600<br>PNP : 500 | 200                    | SC-88                 |                                                                                       | W77                                  |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) | NPN<br>+<br>PNP | RT3TK5M         | R1=22kΩ, R2=47kΩ   | R1=10kΩ, R2=47kΩ   | 50                      | 200                    | 200                    | SC-88<br>(SC-70 6pin) |    | TK5                                  |
|                                                                                   |                 | RT3TKFM         | R1=22kΩ, R2=47kΩ   | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                       |                                                                                       | TKF                                  |
|                                                                                   |                 | RT3T67M         | R1=4.7kΩ           | R1=10kΩ            |                         |                        |                        |                       |                                                                                       | T67                                  |
|                                                                                   |                 | RT3T7LM         | R1=10kΩ            | R1=2.2kΩ           |                         |                        |                        |                       |                                                                                       | T7L                                  |
|                                                                                   |                 | RT3TR7M         | R1=47kΩ            | R1=10kΩ            |                         |                        |                        |                       |                                                                                       | TR7                                  |
|                                                                                   |                 | RT3TBBU         | R1=2.2kΩ, R2=2.2kΩ | R1=2.2kΩ, R2=2.2kΩ |                         | 100                    | 150*                   | USM6F                 |   | BB                                   |
|                                                                                   |                 | RT3TFFU         | R1=4.7kΩ, R2=4.7kΩ | R1=4.7kΩ, R2=4.7kΩ |                         |                        |                        |                       |                                                                                       | FF                                   |
|                                                                                   |                 | RT3T11U         | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=10kΩ   |                         |                        |                        |                       |                                                                                       | 11                                   |
|                                                                                   |                 | RT3T22U         | R1=22kΩ, R2=22kΩ   | R1=22kΩ, R2=22kΩ   |                         |                        |                        |                       |                                                                                       | 22                                   |
|                                                                                   |                 | RT3T33U         | R1=47kΩ, R2=47kΩ   | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                       |                                                                                       | 33                                   |
|                                                                                   |                 | RT3TAAU         | R1=100kΩ, R2=100kΩ | R1=100kΩ, R2=100kΩ |                         |                        |                        |                       |                                                                                       | AA                                   |
|                                                                                   |                 | RT3TCCU         | R1=1kΩ, R2=10kΩ    | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                       |                                                                                       | CC                                   |
|                                                                                   |                 | RT3TEEU         | R1=2.2kΩ, R2=10kΩ  | R1=2.2kΩ, R2=10kΩ  |                         |                        |                        |                       |                                                                                       | EE                                   |
|                                                                                   |                 | RT3TDDU         | R1=2.2kΩ, R2=47kΩ  | R1=2.2kΩ, R2=47kΩ  |                         |                        |                        |                       |                                                                                       | DD                                   |
|                                                                                   |                 | RT3TGGU         | R1=4.7kΩ, R2=10kΩ  | R1=4.7kΩ, R2=10kΩ  |                         |                        |                        |                       |                                                                                       | GG                                   |
|                                                                                   |                 | RT3T44U         | R1=4.7kΩ, R2=22kΩ  | R1=4.7kΩ, R2=22kΩ  |                         |                        |                        |                       |                                                                                       | 44                                   |
|                                                                                   |                 | RT3THHU         | R1=4.7kΩ, R2=47kΩ  | R1=4.7kΩ, R2=47kΩ  |                         |                        |                        |                       |                                                                                       | HH                                   |
|                                                                                   |                 | RT3TJJU         | R1=10kΩ, R2=4.7kΩ  | R1=10kΩ, R2=4.7kΩ  |                         |                        |                        |                       |                                                                                       | JJ                                   |
|                                                                                   |                 | RT3T55U         | R1=10kΩ, R2=47kΩ   | R1=10kΩ, R2=47kΩ   |                         |                        |                        |                       |                                                                                       | 55                                   |
|                                                                                   |                 | RT3TKKU         | R1=22kΩ, R2=47kΩ   | R1=22kΩ, R2=47kΩ   |                         |                        |                        |                       |                                                                                       | KK                                   |
|                                                                                   |                 | RT3TMMU         | R1=47kΩ, R2=10kΩ   | R1=47kΩ, R2=10kΩ   |                         |                        |                        |                       |                                                                                       | MM                                   |
|                                                                                   |                 | RT3TNNU         | R1=47kΩ, R2=22kΩ   | R1=47kΩ, R2=22kΩ   |                         |                        |                        |                       |                                                                                       | NN                                   |
|                                                                                   |                 | RT3TPPU         | R1=1kΩ             | R1=1kΩ             |                         |                        |                        |                       |                                                                                       | PP                                   |
|                                                                                   |                 | RT3TLLU         | R1=2.2kΩ           | R1=2.2kΩ           |                         |                        |                        |                       |                                                                                       | LL                                   |
|                                                                                   |                 | RT3T66U         | R1=4.7kΩ           | R1=4.7kΩ           |                         |                        |                        |                       |                                                                                       | 66                                   |
|                                                                                   |                 | RT3T77U         | R1=10kΩ            | R1=10kΩ            |                         |                        |                        |                       |                                                                                       | 77                                   |
|                                                                                   |                 | RT3TQQU         | R1=22kΩ            | R1=22kΩ            |                         |                        |                        |                       |                                                                                       | QQ                                   |
|                                                                                   |                 | RT3TRRU         | R1=47kΩ            | R1=47kΩ            |                         |                        |                        |                       |                                                                                       | RR                                   |
|                                                                                   |                 | RT3TSSU         | R1=100kΩ           | R1=100kΩ           |                         |                        |                        |                       |                                                                                       | SS                                   |
|                                                                                   |                 | RT3TTTU         | R1=200kΩ           | R1=200kΩ           |                         |                        |                        |                       |                                                                                       | TT                                   |
|                                                                                   |                 | RT3TUUU         | R2=10kΩ            | R2=10kΩ            |                         |                        |                        |                       |                                                                                       | UU                                   |
|                                                                                   |                 | RT3TVVU         | R2=22kΩ            | R2=22kΩ            |                         |                        |                        |                       |                                                                                       | VV                                   |
|                                                                                   |                 | RT3TWWU         | R2=47kΩ            | R2=47kΩ            |                         |                        |                        |                       |                                                                                       | WW                                   |
|                                                                                   |                 | RT3TXXU         | R2=100kΩ           | R2=100kΩ           |                         |                        |                        |                       |                                                                                       | XX                                   |
| 抵抗入り<br>トランジスタ<br>スイッチング用<br>Resistance<br>built-in transistor<br>(for switching) |                 | RT3T15U         | R1=10kΩ, R2=10kΩ   | R1=10kΩ, R2=47kΩ   | 100                     |                        |                        |                       |  | 15                                   |
|                                                                                   |                 | RT3T1CU         | R1=10kΩ, R2=10kΩ   | R1=1kΩ, R2=10kΩ    |                         |                        |                        |                       |                                                                                       | 1C                                   |
|                                                                                   |                 | RT3T1KU         | R1=10kΩ, R2=10kΩ   | R1=22kΩ, R2=47kΩ   |                         |                        |                        |                       |                                                                                       | 1K                                   |
|                                                                                   |                 | RT3TA3U         | R1=100kΩ, R2=100kΩ | R1=47kΩ, R2=47kΩ   |                         |                        |                        |                       |                                                                                       | A3                                   |

受注生産品種がございます。営業へお問い合わせ願います。Some Make-to-Order manufacturing exists. Please ask to sales office.

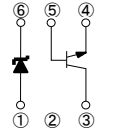
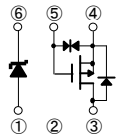
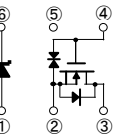
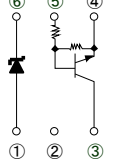
\* : ガラエポ基板実装時 (mounted on glass-epoxy substrate)

● : 開発中 (Developing)

# 用途別一覧

## Application Guide

●異種複合製品 Composite Different Devices

| 用 途<br>Use                                             | タイプ<br>Type | 形名<br>Type Name | ツェナー<br>Vz(V)     | Transistor         | 最大定格<br>Max. Ratings |                        |                     |            | パッケージ<br>Package | 等価回路<br>Equivalent<br>Circuit                                                        | マーク形名<br>表示<br>Marking<br>Indication |
|--------------------------------------------------------|-------------|-----------------|-------------------|--------------------|----------------------|------------------------|---------------------|------------|------------------|--------------------------------------------------------------------------------------|--------------------------------------|
|                                                        |             |                 |                   |                    | Iz<br>(mA)           | VCEO<br>or Vbss<br>(V) | Ic<br>or ID<br>(mA) | Pc<br>(mW) |                  |                                                                                      |                                      |
| Ze入り複合Tr<br>Composite Zener<br>diode and<br>transistor | Ze<br>+NPN  | RTE13LFM        | 8.2±5%<br>@Iz=5mA | 2SC4154<br>2SC3052 | 10                   | 50                     | 200                 | 150        | SC-88            |   | X01                                  |
|                                                        | Ze<br>+Pch  | RTE13J1M        | 8.2±5%<br>@IZ=5mA | INJ0001AX          | 10                   | -50                    | -100                | 150        |                  |   | X03                                  |
|                                                        | Ze<br>+Nch  | RTE13K6M        | 8.2±5%<br>@IZ=5mA | INK0012AX          | 10                   | 30                     | 200                 | 150        |                  |   | X11                                  |
|                                                        | Ze<br>+NPN  | RTE05N3M        | 3.6±5%<br>@IZ=5mA | RT1N441X           | 10                   | 50                     | 100                 | 150        |                  |  | X12                                  |

アナログIC Analog IC

| 形名<br>Type Name | 機 能<br>Function                                              | 用 途<br>Application                                         | 特 長 Features                                     |                         |                        |                  |
|-----------------|--------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------|-------------------------|------------------------|------------------|
|                 |                                                              |                                                            | 最大入力電圧<br>(定格)<br>Input Voltage<br>(Max.Ratings) | 回路電流<br>Circuit Current | 出力電流<br>Output Current | パッケージ<br>Package |
| RT8H034C ●      | LEDドライブ制御回路<br>LED drive control circuit                     | 照明機器一般<br>Lighting general purpose                         | 19V                                              | 950uA(typ)              | 5mA(typ)               | SC-74            |
| RT8H042C ●      | バッテリーバックアップ切替用IC<br>Battery Backup Switching IC              | 電圧監視回路一般<br>Electric voltage watch circuit general purpose | 37V                                              | 250uA(typ)              | 6mA(typ)               | SC-74            |
| RT8H062E ●      | ウォッチドッグタイマ回路<br>Watch dock timer circuit                     | 電子回路一般<br>Electronic circuit general purpose               | 10V                                              | 600uA(typ)              | 10mA(typ)              | TMSOP8           |
| RT8H082E ●      | DC-DCコンバータ<br>DC-DC converter                                | 電流監視回路一般<br>Electric current watch circuit general purpose | 13V                                              | 400uA(typ)              | 20mA(typ)              | TMSOP8           |
| RT8H102C ●      | UVLO内蔵IGBT駆動回路<br>Built-in UVLO circuit, IGBTdrive circuit   | 電子回路一般<br>Electronic circuit general purpose               | 30V                                              | 500uA(typ)              | 1mA(typ)               | SC-74            |
| RT8H012C        | リセット機能(遅延容量接続端子付き)<br>Voltage Detector                       | 電子回路一般<br>Electronic circuit general purpose               | 37V                                              | 250uA(typ)              | 20mA(typ)              | SC-74            |
| RT8H051C        | 過電流保護回路<br>Over-current protection circuit                   | 電流監視回路一般<br>Electric current watch circuit general purpose | 20V                                              | 200uA(typ)              | 10mA(typ)              | SC-74            |
| RT8H052C        | 3シャント方式過電流保護回路<br>Three shunt system over-current protection | 電子回路一般<br>Electronic circuit general purpose               | 12V                                              | 200uA(typ)              | 2.9mA(typ)             | SC-74            |
| RT8H065C        | ラッチ回路<br>Latch circuit                                       | 電流監視回路一般<br>Electric current watch circuit general purpose | 37V                                              | 250uA(typ)              | 6mA(typ)               | SC-74            |
| RT8H101C        | コンパレータ回路<br>Comparator circuit                               | 電子回路一般<br>Electronic circuit general purpose               | 36V                                              | 220uA(typ)              | 8mA(typ)               | SC-74            |
| RT8H255C        | IGBT駆動回路<br>IGBT drive circuit                               | 電子回路一般<br>Electronic circuit general purpose               | 30V                                              | 500uA(typ)              | 1mA(typ)               | SC-74            |
| RT8H044K        | 漏電検出回路<br>Electric leakage detection circuit                 | 漏電ブレーカー<br>earth leakage breaker                           | 15V                                              | 900uA(typ)              | 230uA(typ)             | SOP14            |

受注生産品種がございます。営業へお問い合わせ願います。Some Make-to-Order manufacturing exists. Please ask to sales office.

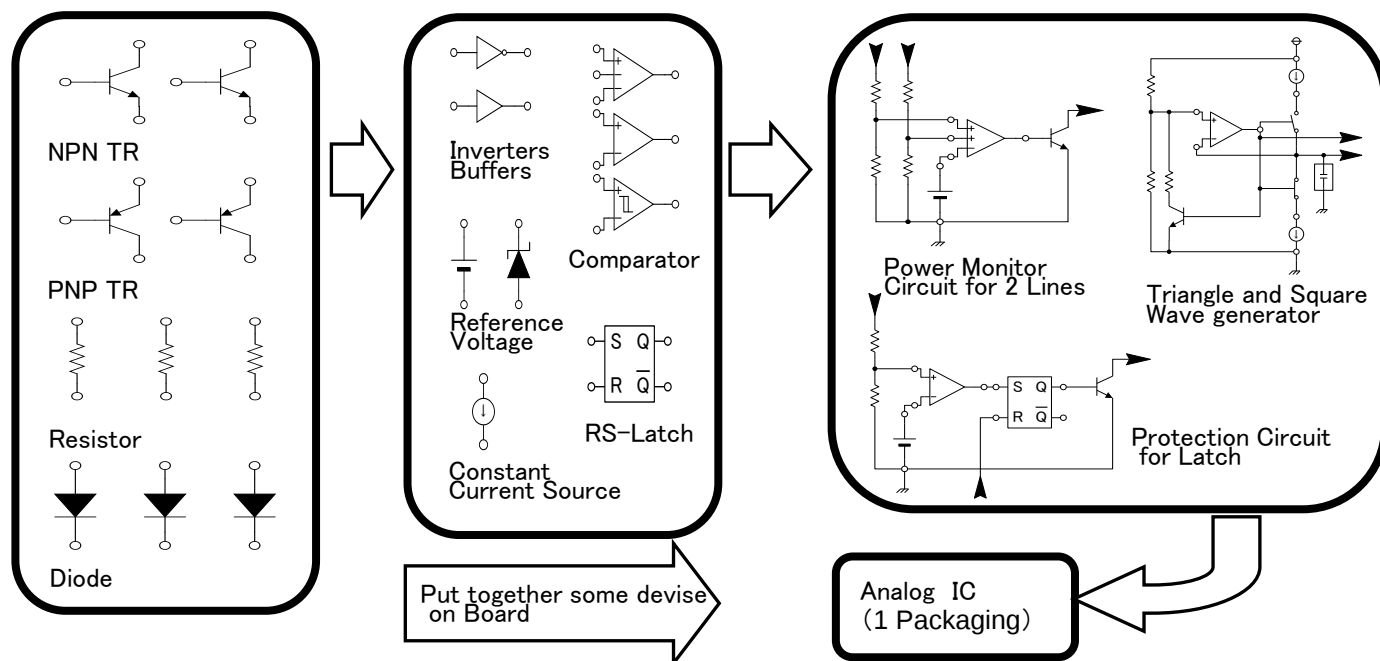
●:開発中(Developing)

# 用途別一覧

## Application Guide

### アナログIC

集約化アプローチ Approach for Analog IC



※アナログICでは、カスタム製品開発のご対応を承っております。既にコアチップとして下記の素子を配置しており、アルミマスクのみの変更により回路構成が可能です。  
Customized product development are possible for Analog ICs. The following element built-in chip. Circuit composition is possible only at change of an AI mask.

※パッケージは、SC-74、TMSOP8、SSOP14にて対応します。

Analog IC's package is SC-74, TMSOP8 or SSOP14.

### リニア製品 Linear IC

| 形名<br>Type Name | 機能<br>Function                | 製品概要<br>Product Outline            |     | 特長 Features                            |                  |                                              |                                     |                              | パッケージ<br>Package  |
|-----------------|-------------------------------|------------------------------------|-----|----------------------------------------|------------------|----------------------------------------------|-------------------------------------|------------------------------|-------------------|
|                 |                               |                                    |     | (定格)<br>Input Voltage<br>(Max.Ratings) | (基準電圧)<br>(Vref) | (カソード電流)<br>Max. Output<br>(Cathode Current) | (最小カソード電流)<br>Min. Input<br>(IKmin) | 電圧精度<br>Voltage<br>Precision |                   |
| RT9H301C        | シャントReg<br>Shunt<br>regulator | 出力可変<br>Variable<br>output voltage | 1ch | 37V                                    | 2.495V           | 100mA                                        | 0.6mA                               | ±1(%)                        | SC-59             |
| RT9H301P        |                               |                                    |     |                                        |                  |                                              |                                     |                              | SC-62             |
| RT9H301S        |                               |                                    |     |                                        |                  |                                              |                                     |                              | Micro<br>(TO-92S) |
| RT9H321C        |                               |                                    |     |                                        | 1.250V           | 80mA                                         | 0.2mA                               |                              | SC-59             |

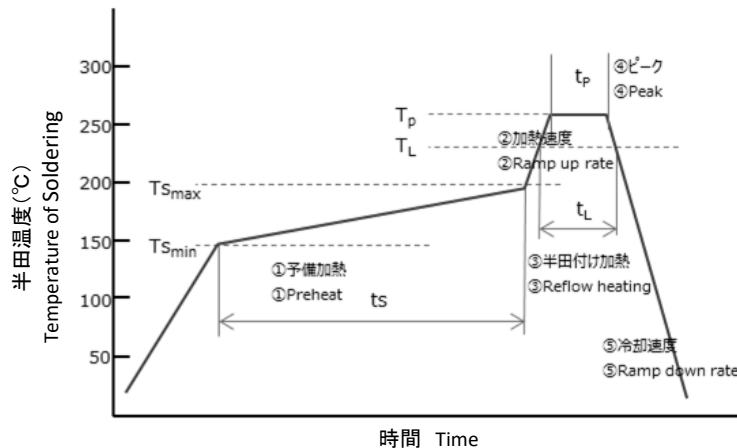
# はんだ付条件

## Soldering Condition

### 【半田リフロー条件 Reflow Method】

SC-59, SC-74, SC-70, SC-75A, USM6F, SC-88, SC-88A, SC-62(SOT-89) パッケージ  
(マイクロ(TO-92S)パッケージ製品においての、リフロー実施は対象外となっています。)

SC-59, SC-74, SC-70, SC-75A, USM6F, SC-88, SC-88A, SC-62(SOT-89) Package products  
(Micro(TO-92S) Package products are not recommended to reflow method.)



|                                 |                 |
|---------------------------------|-----------------|
| ①予備加熱                           |                 |
| 温度下限                            | $T_{Smin}$ 130℃ |
| 温度上限                            | $T_{Smax}$ 180℃ |
| 時間 ( $T_{Smin}$ から $T_{Smax}$ ) | 50~120sec       |
| ②加熱速度 (℃/sec)                   | 1~4℃/sec        |
| ③はんだ付け加熱                        |                 |
| 温度                              | $T_L$ 230℃      |
| 高温保持時間                          | $t_L$ 20~30sec  |
| ④ピーク点                           |                 |
| 温度                              | $T_p$ 245~260℃  |
| 高温保持時間                          | $t_p$ 10sec以内   |
| ⑤冷却速度 (℃/sec)                   | 1~5℃/sec        |

|                                   |                    |
|-----------------------------------|--------------------|
| ①Preheat                          |                    |
| Temperature Min                   | $T_{Smin}$ 130℃    |
| Temperature Max                   | $T_{Smax}$ 180℃    |
| Time ( $T_{Smin}$ から $T_{Smax}$ ) | 50~120sec          |
| ②Ramp up rate (℃/sec)             | 1~4℃/sec           |
| ③Reflow heating                   |                    |
| Temperature                       | $T_L$ 230℃         |
| Heating time                      | $t_L$ 20~30sec     |
| ④Peak                             |                    |
| Temperature                       | $T_p$ 245~260℃     |
| Peak time                         | $t_p$ within 10sec |
| ⑤Ramp down rate (℃/sec)           | 1~5℃/sec           |

※上図温度プロファイルにて2回リフローは可能です。

※Reflow 2 times are possible on condition that upper temperature profile.

赤外線リフロー時の樹脂表面部の温度プロファイル(リフロー後、基板の強制冷却は避けてください。)

Temperature Profile of IR Reflow ( After reflow, Avoid forced cooling. )

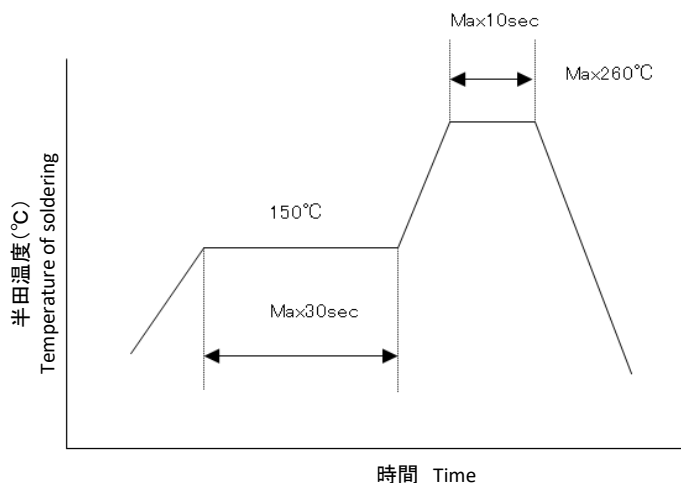
この温度以下でご使用になる際は、ピーク温度の時間(長く)、半田付け時間(長く)、はんだペースト厚(厚く)等調整されることをお奨め致します。

When you use below this temperature, please adjust Peak time (long), Soldering time (long), Solder paste thickness(thick) etc.

### 【半田フロー条件 Flow Method】

SC-59, SC-74, SC-70, SC-75A, SC-88, SC-88A, SC-62(SOT-89), マイクロ(TO-92S)パッケージ  
(USM6Fパッケージ製品においての、フロー実施は対象外となっています。)

SC-59, SC-74, SC-70, SC-75A, SC-88, SC-88A, SC-62(SOT-89), Micro(TO-92S) Package products  
(USM6F Package products are not recommended to flow method.)



- ※1 リード品:リードのみの浸漬とします。
- ※2 左図温度プロファイルにて2回フローは可能です。
- ※1 Dipping is within the limits only part of lead.
- ※2 Flow 2 times are possible on condition that left temperature profile.

### 【手半田付け条件 Hands Dipping Method】

半田温度380℃以下、3秒以内で温度・時間に充分注意してご使用下さい。

Please be careful to use time and temperature on condition that Solder temperature : less than 380℃ dipping time to 3sec.

# 梱包単位

## Packing Unit

| パッケージ名<br>Package                                               | テーピング単位<br>Taping Unit                       | 形 名<br>Type Name                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| スーパーミニ5ピン (SC-70 5pin) タイプ<br>Super Mini 5pin (SC-70 5pin) Type | エンボスタイプ<br>Emboss carrier<br>Tape<br>3000pcs | RT2A00AM1, RT2C00M, RT2NXXM, RT2PXXM<br>他                                                                                                                                                                                                                                                                                                                                                      |
| スーパーミニ6ピン (SC-70 6pin) タイプ<br>Super Mini 6pin (SC-70 6pin) Type |                                              | RT3AXXM, RT3CXXM, RT3WXXM, RT3NXXM, RT3PXXM,<br>RT3TXXM, RT3KXXM, RT3JXXM, RT3UXXM, RT3YXXM 他                                                                                                                                                                                                                                                                                                  |
| ウルTRASーパーミニ<br>(SC-75A) タイプ<br>Ultra Super Mini (SC-75A) Type   |                                              | ISA1989AU1, 2SC5383, 2SC5384, 2SC5621, 2SC5636,<br>2SC5816, INCXXXXAU1, INKXXXXAU1, INJXXXXAU1<br>MC2852, MC2854, MC2856, MC2858<br>RT1PXXU, RT1NXXU, RTANXXU 他                                                                                                                                                                                                                                |
| スーパーミニ (SC-70) タイプ<br>Super Mini (SC-70) Type                   |                                              | ISA1602AM1, ISA1603AM1<br>2SC4154, 2SC4155A, 2SC4258, 2SC5626, 2SC5620, 2SC5635<br>2SC5815, 2SC6120,<br>INAXXXAM1, INCXXXAM1, INKXXXAM1, INJXXXAM1<br>ISAXXXAM1, ISCXXXAM1<br>MC2841, MC2842, MC2843, MC2844, MC2845, MC2846, MC2848<br>MC2850, 2SJ145, 2SK930,<br>RT1PXXM, RT1NXXM, RTANXXM 他                                                                                                 |
| ミニ (SC-59) タイプ<br>Mini (SC-59) Type                             |                                              | ISA1235AC1, ISA1530AC1<br>2SA1366, 2SA2026, 2SA2188<br>2SC3052, 2SC3053, 2SC3440, 2SC3441, 2SC3928A, 2SC5619<br>2SC5477, 2SC5625, 2SC5634, 2SC5814, 2SC6046,<br>2SC6053, 2SJ125, 2SK433, 2SK492<br>INAXXXAC1, INCXXXAC1, INKXXXAC1, INJXXXAC1<br>BS08E, MC2831, MC2832, MC2833, MC2834, MC2835, MC2836<br>MC2836, MC2837, MC2838, MC2840,<br>RT1PXXC, RT1NXXC, RT5XXXC, RTANXXC,<br>RT9H301C 他 |
| ミニ6ピン (SC-74) タイプ<br>Mini 6pin (SC-74) Type                     |                                              | RT8H012C, RT8H051C, RT8H065C<br>他                                                                                                                                                                                                                                                                                                                                                              |
| チップパワー (SC-62) タイプ<br>Chip Power (SC-62) Type                   | エンボスタイプ<br>Emboss carrier<br>Tape<br>1000pcs | 2SA1363, 2SA1364, 2SA1368, 2SA1369, 2SA1944, 2SA1945<br>2SA1946, 2SA1947, 2SA2027, 2SA2167, INA5002AP1<br>2SC3438, 2SC3439, 2SC3443, 2SC3444, 2SC4357<br>2SC5209, 2SC5210, 2SC5211, 2SC5212, 2SC5214<br>2SC5633, INA5001AP1, INC5001AP1, INC5002AP1<br>RT1P137P, RT1N137P, RTGNXX(A)P<br>INAXXXAP1, INCXXXAP1, INKXXXAP1 他                                                                     |
| USM6F タイプ<br>USM6F Type                                         | エンボスタイプ<br>Emboss carrier Tape<br>4000pcs    | RT3CLU, RT3CGGU, RT3MMU, RT3NXXU, RT3PXXU<br>RT3TXU 他                                                                                                                                                                                                                                                                                                                                          |
| マイクロ タイプ<br>Micro Type<br>(TO-92S, SC-72)                       | ラジアルタイプ<br>Radial<br>2500pcs                 | ISA1993AS1, ISA1995AS1,<br>2SA1998, 2SA2002, 2SC5395, 2SC5397, 2SC5398, 2SC5482<br>2SC5484, 2SC5485,<br>2SJ498, 2SK2880, 2SK2881<br>MC961, MC971, MC981, MC982,<br>BS08D, RT1PXXS, RT1NXXS<br>ISA1286AS1, ISA1399AS1, ISA1287AS1, ISA1284AS1,<br>ISB1035AS1, ISA1283AS1, ISC3242AS1, ISC3242BS1,<br>ISC3581AS1, ISC4356AS1, ISC3244AS1, ISC3249AS1,<br>ISD1447AS1, ISC3247AS1 他                |
| TMSOP8 タイプ<br>TMSOP8 Type                                       | エンボスタイプ<br>Emboss carrier Tape<br>2000pcs    | RT8HXXE                                                                                                                                                                                                                                                                                                                                                                                        |
| SSOP14 タイプ<br>SSOP14 Type                                       | エンボスタイプ<br>Emboss carrier Tape<br>2000pcs    | RT8HXXV                                                                                                                                                                                                                                                                                                                                                                                        |

# 梱包仕様

## Packing Specifications

### 種類 TYPE

用途に合った製品をお選びください。 Please select the product as usage.

| 梱包仕様<br>Packing<br>specifications | 適用外形<br>Package                                                                                                                                                          | 対象品種<br>Type                                                                                                                                                                                                                                                              | 梱包単位<br>Packing Unit                                     |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| テーピング<br>Taping                   | マイクロタイプ<br>Micro Type<br>(TO-92S, SC-72)                                                                                                                                 | シリコントランジスタ、抵抗付トランジスタ、<br>ダブルダイオード接合型電界効果トランジスタ、リニアIC<br>Silicon transistor, Transistor with resistor, Double diode,<br>J-FET, Linear IC                                                                                                                                   | 2,500 個/カートン<br>2,500 pcs/carton                         |
|                                   | チップパワー(SC-62) タイプ<br>Chip Power (SC-62) Type                                                                                                                             | シリコントランジスタ、抵抗付トランジスタ、MOS-FET、リニアIC<br>Silicon transistor, Transistor with resistor, MOS-FET, Linear IC                                                                                                                                                                    | 1,000 個/リール<br>1,000 pcs/reel                            |
|                                   | ミニ(SC-59)、スーパーミニ(SC-70)、<br>ウルTRASーパーミニ(SC-75A)、<br>ミニ 6pin (SC-74) タイプ<br><br>Mini (SC-59), Super Mini (SC-70),<br>Ultra Super Mini (SC-75A),<br>Mini 6pin (SC-74) Type | シリコントランジスタ、抵抗付トランジスタ、<br>シングルダイオード(SC-59,70,75A)、ダブルダイオード、<br>MOS-FET<br>接合型電界効果トランジスタ(SC-59,70,75A)、アナログIC、<br>リニアIC<br>Silicon transistor, Transistor with resistor,<br>Single diode(SC-59,70,75A), Double diode, MOS-FET<br>J-FET (SC-59,70,75A), Analog IC, Linear IC | 3,000 個/リール<br>3,000 pcs/reel                            |
|                                   | スーパーミニ 5pin (SC-70) タイプ<br>Super Mini 5pin (SC-70) Type                                                                                                                  | 複合トランジスタ(スーパーミニ 5pin)<br>Composite Transistor                                                                                                                                                                                                                             | 3,000 個/リール<br>3,000 pcs/reel                            |
|                                   | スーパーミニ 6pin (SC-70) タイプ<br>Super Mini 6pin (SC-70) Type                                                                                                                  | 複合トランジスタ(スーパーミニ 6pin)<br>Composite Transistor                                                                                                                                                                                                                             |                                                          |
|                                   | USM6F タイプ<br>USM6F Type                                                                                                                                                  | 複合トランジスタ (USM6F)<br>Composite Transistor                                                                                                                                                                                                                                  | 4,000 個/リール<br>(4mmピッチ)<br>4,000 pcs/reel<br>(4mm pitch) |

### 概要 DESCRIPTION

電子機器の小型化、高性能化に伴い、半導体部品の小型化が急速に進められています。また、部品の実装技術も飛躍的に進歩し、実装密度の向上と、大幅な省人化、自動化が押し進められています。

イサハヤ電子では、このため半導体部品の小型化を積極的に図るとともに、半導体部品のテーピングに積極的に取り組んでおります。

この梱包仕様をご利用いただくことで自動実装機の適用が可能となり、実装密度の向上と、大幅な省人化、コストダウンが可能となりました。

Semiconductor parts are promoted miniaturization rapidly with miniaturization of an electric device, highly-efficient-sizing.

And mounting technology of parts exponentially progress, they push to advance of packaging density and its automation.

ISAHAYA ELECTRONICS CORPORATION promote miniaturization of semiconductor parts and change of taping of semiconductor products positively.

If you use this packing system, you can be available automatic packing machine, and you can do cost-down, and progress of packaging density, effective automation.



### 特長 FEATURES

テーピング すべての、自動実装機への適用が可能です。それぞれの外形に応じ多様な形態で納入が可能です。

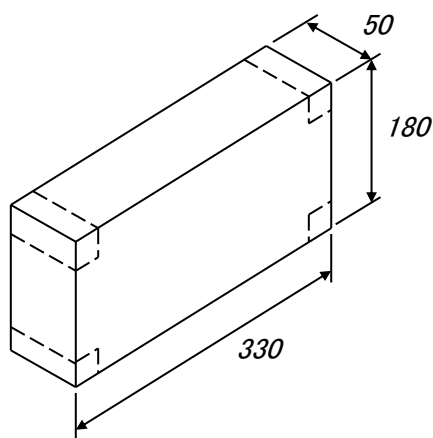
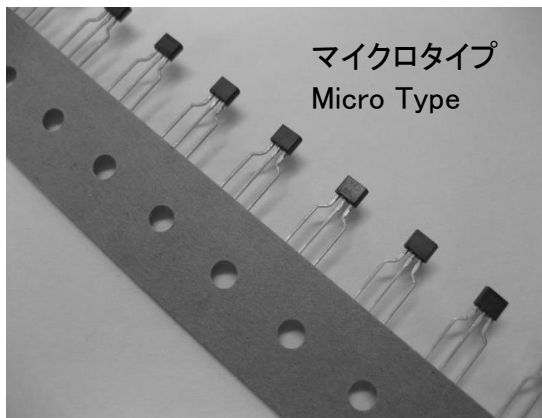
Taping An application to all automatic mounting machines is possible.  
Delivery is possible with a form that seems to have responded each package.

# 梱包仕様

## Packing Specifications

### 1. リードマウント形素子のテーピング仕様

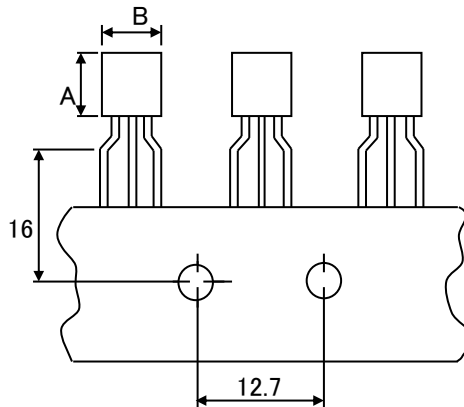
#### Taping specification of lead mount type



#### 特長 FEATURES

- (1) 優れた成形性を有しています
- (2) 引き出し方向で電極方向を変えることができます。
- (1) It has good superb.
- (2) An electrode direction can be changed with a drawer.

寸法図 (単位: mm)

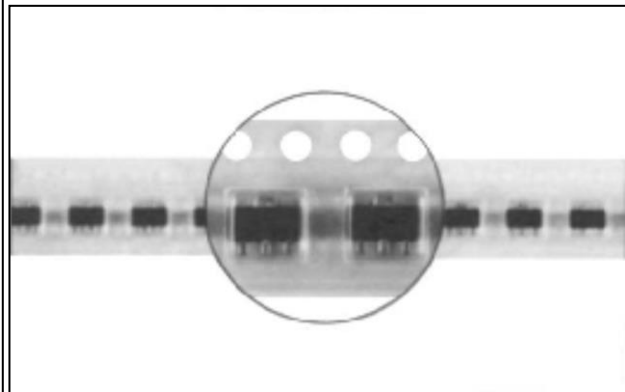


| 外部      | A       | B       |
|---------|---------|---------|
| マイクロタイプ | 3.0±0.1 | 4.0±0.1 |

### 2. 表面実装形素子のテーピング仕様

#### Taping specification of a discrete type

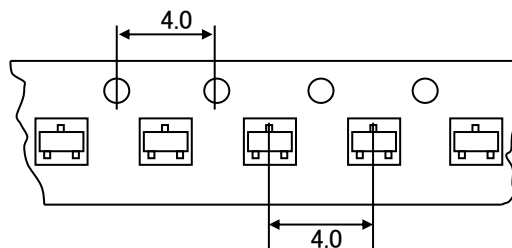
ウルTRASーパーミニ (SC-75A)、スーパーミニ(SC-70)、  
SC-88A(SC-70 5pin), チップパワー(SC-62)  
Ultra Super Mini (SC-75A), Super Mini (SC-70), Mini(SC-59)  
SC-88A(SC-70 5pin), Chip Power(SC-62)



#### 特長 FEATURES

自動実装機への適用が可能です  
An application to an automatic mounting machine is possible.

ウルTRASーパーミニ (SC-75A[SC-90])タイプ  
Ultra Super Mini (SC-75A[SC-90]) Type

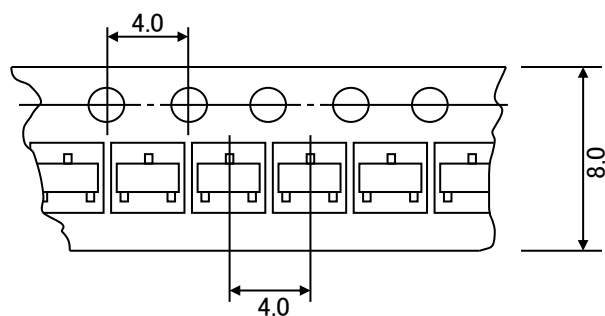


# 梱包仕様

## Packing Specifications

### 2. 表面実装形素子のテーピング仕様 Taping specification of a discrete type

スーパーミニ (SC-70)、ミニ (SC-59) タイプ  
Super Mini (SC-70) ,Mini (SC-59) Type



3pin (SC-59,SC-70)



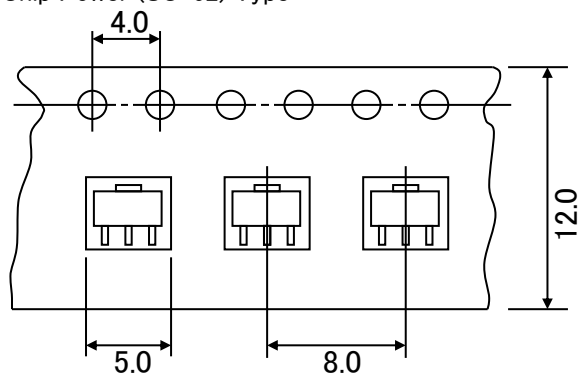
5pin (SC-88A)



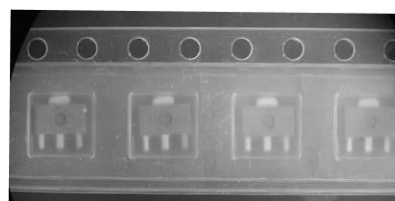
6pin (SC-88)



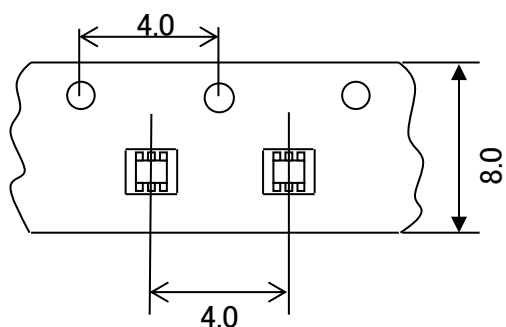
チップパワー (SC-62) タイプ  
Chip Power (SC-62) Type



3pin(SC-62)



USM6Fタイプ  
USM6F Type



6pin(USM6F)



# 梱包仕様

## Packing Specifications



\* SC-75A、SC-70、SC-59の場合 60φ(PSリール)

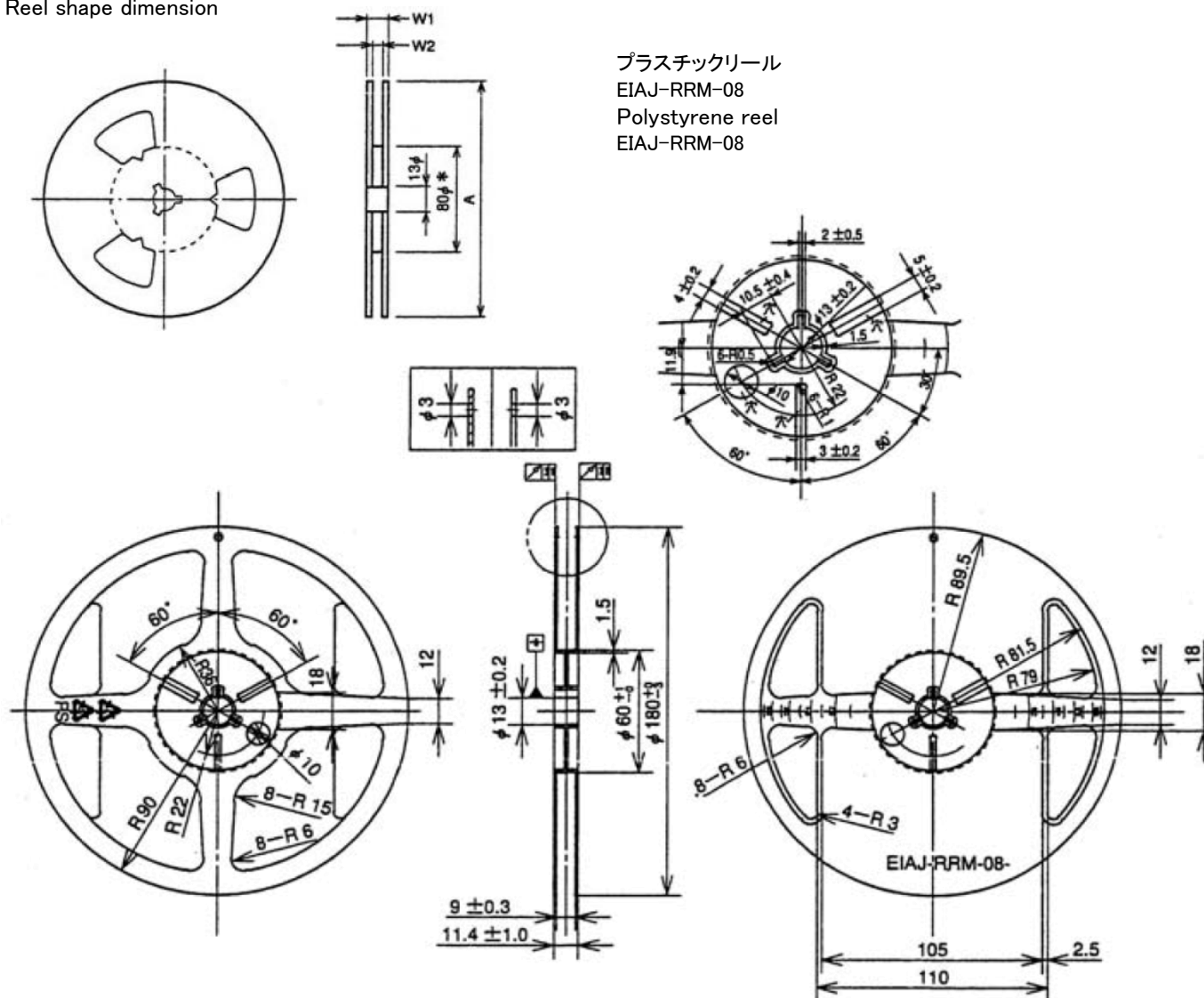
| 適用外形<br>Package                                           | 包装単位<br>Packing Unit  | W1   | W2  | A     |
|-----------------------------------------------------------|-----------------------|------|-----|-------|
| ウルトラスーパーミニ (SC-75A) タイプ<br>Ultra Super Mini (SC-75A) Type | 3000 個 /<br>リール(Reel) | 11.4 | 9.0 | 180 φ |
| スーパーミニ (SC-70) タイプ<br>Super Mini (SC-70) Type             |                       |      |     |       |
| ミニ (SC-59) タイプ<br>Mini (SC-59) Type                       |                       |      |     |       |
| ミニ 6pin (SC-74) タイプ<br>Mini 6pin (SC-74) Type             |                       |      |     |       |
| ミニ 6pin (SC-74) タイプ<br>Mini 6pin (SC-74) Type             |                       |      |     |       |
| スーパーミニ (SC-70, 5pin) タイプ<br>Super Mini (SC-70, 5pin) Type |                       |      |     |       |
| スーパーミニ (SC-70, 6pin) タイプ<br>Super Mini (SC-70, 6pin) Type |                       |      |     |       |
| スーパーミニ (SC-70, 6pin) タイプ<br>Super Mini (SC-70, 6pin) Type |                       |      |     |       |
| USM6F タイプ<br>USM6F Type                                   | 4000 個 /<br>リール(Reel) |      |     |       |
| USM6F Type                                                |                       |      |     |       |

リール寸法W1、W2、A以外は両タイプ同数値

Outside reel dimension W1,W2,A both type same numerical value.

リール形状寸法

Reel shape dimension



プラスチックリール

EIAJ-RRM-08

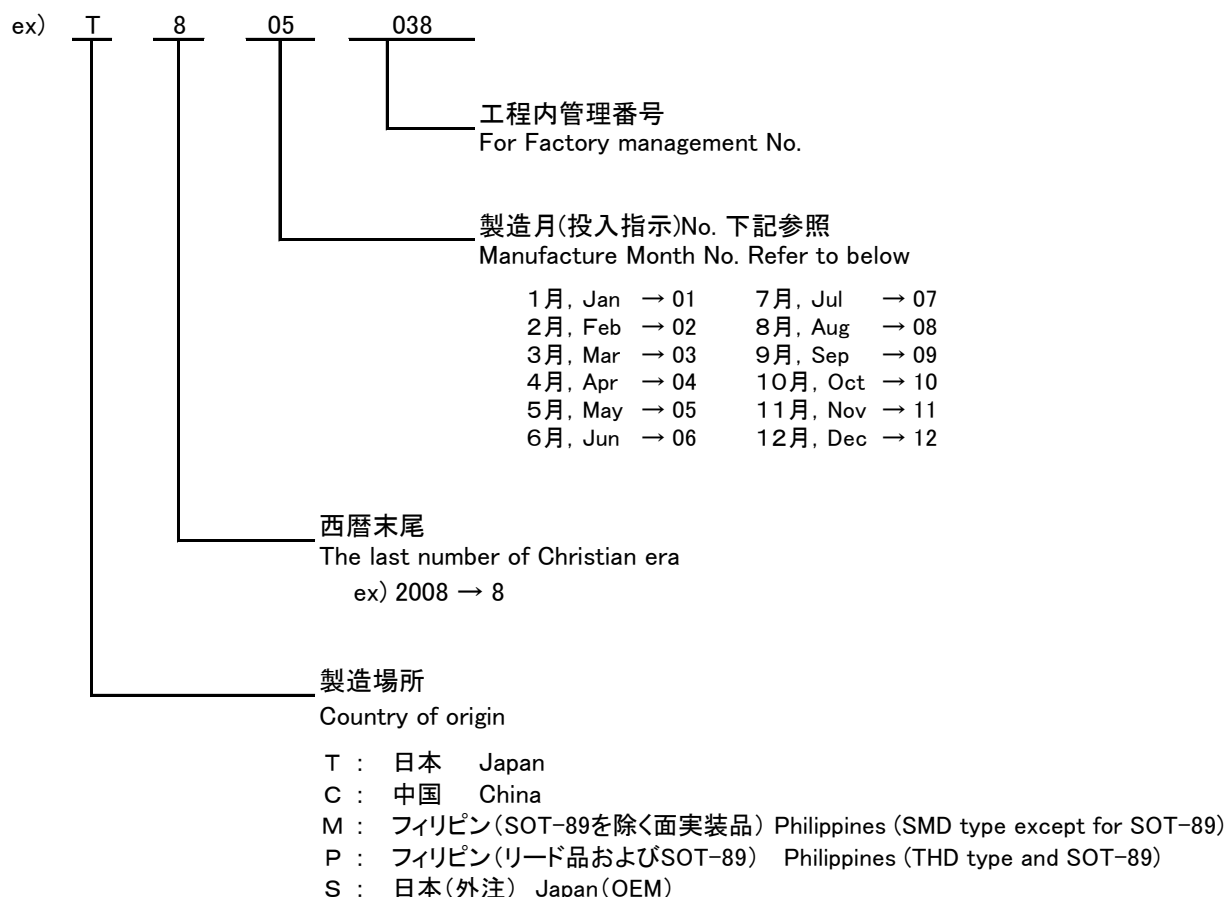
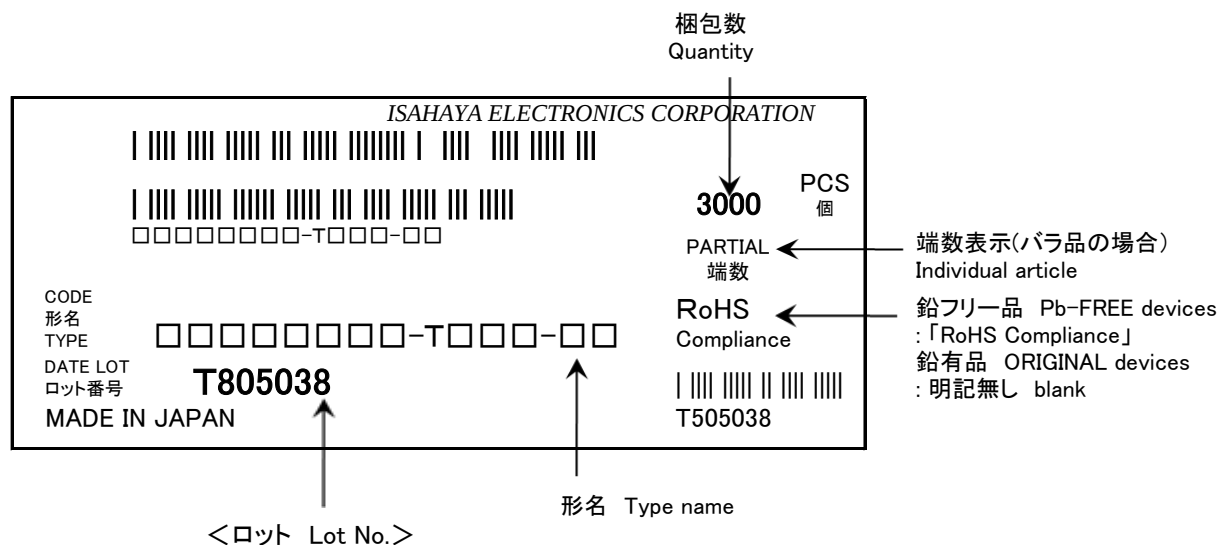
Polystyrene reel

EIAJ-RRM-08

# 梱包仕様

## Packing Specifications

生産ラベル表示  
The production label



# 保守・廃止品種

## List of End of Life Items

下記の品種は、現在、保守あるいは廃止品種となっておりますので新規採用はお避け下さい

■ The following is Maintenance-discontinued type, so please avoid a new adoption.

| 区分<br>Class | 形名<br>Type Name  | 代替品<br>Substitute | 区分<br>Class | 形名<br>Type Name | 代替品<br>Substitute |
|-------------|------------------|-------------------|-------------|-----------------|-------------------|
| A           | 2SA1115,2SA1993  | ISA1993AS1        | A           | 2SC3928         | 2SC3928A          |
| A           | 2SA1235,2SA1235A | ISA1235AC1        | A           | 2SC403SP        | -                 |
| A           | 2SA1248          | -                 | A           | 2SC4155         | 2SC4155A          |
| A           | 2SA1282          | 2SA1998           | A           | 2SC4266         | 2SC5398           |
| A           | 2SA1282A         | 2SA1998           | A           | 2SC4356         | ISC4356AS1        |
| A           | 2SA1283          | ISA1283AS1        | A           | 2SC5170         | -                 |
| A           | 2SA1284          | ISA1284AS1        | A           | 2SC5213         | -                 |
| A           | 2SA1285          | -                 | A           | 2SC5396         | -                 |
| A           | 2SA1285A         | -                 | A           | 2SC5486         | -                 |
| A           | 2SA1286          | ISA1286AS1        | A           | 2SC5547         | -                 |
| A           | 2SA1287          | ISA1287AS1        | A           | 2SC5804         | -                 |
| A           | 2SA1299          | -                 | A           | 2SC5807         | -                 |
| A           | 2SA1398          | 2SA2002           | A           | 2SC710          | 2SC5397           |
| A           | 2SA1399          | ISA1399AS1        | A           | 2SC738          | -                 |
| A           | 2SA1530,2SA1530A | ISA1530AC1        | A           | 2SC763          | -                 |
| A           | 2SA1602,2SA1602A | ISA1602AM1        | A           | 2SD1447         | ISD1447AS1        |
| A           | 2SA1603,2SA1603A | ISA1603AM1        | A           | 2SD1972         | -                 |
| A           | 2SA1630,2SA1995  | ISA1995AS1        | A           | 2SD2690         | -                 |
| A           | 2SA1927          | -                 | A           | 2SJ40           | 2SJ498            |
| A           | 2SA1929          | -                 | A           | 2SK108          | 2SK2881           |
| A           | 2SA1948          | -                 | A           | BS08A           | BS08D             |
| A           | 2SA1989          | ISA1989AU1        | A           | ISA2191AT2      | -                 |
| A           | 2SA2068          | -                 | A           | ISC5804AT2      | -                 |
| A           | 2SA2191          | -                 | A           | MC2839          | MC2837            |
| A           | 2SA798           | -                 | A           | MC911           | MC961             |
| A           | 2SA847A          | -                 | A           | MC921           | MC971             |
| A           | 2SA904A          | -                 | A           | MC931           | MC981             |
| A           | 2SA979,2SA1928   | -                 | A           | MC932           | MC982             |
| A           | 2SA995           | -                 | A           | RT1A3906-T112   | RT1A3906-T122     |
| A           | 2SA999,2SA1993   | ISA1993AS1        | A           | RT1N137L        | RT1N137S          |
| A           | 2SA999L          | -                 | A           | RT1N140S-11     | RT1N140S-T112     |
| A           | 2SB1035          | ISB1035AS1        | A           | RT1N141S-11     | RT1N141S-T112     |
| A           | 2SB1314          | -                 | A           | RT1N144S-11     | RT1N144S-T112     |
| A           | 2SC1310          | -                 | A           | RT1N241S-11     | RT1N241S-T112     |
| A           | 2SC1455          | -                 | A           | RT1N430S-11     | RT1N430S-T112     |
| A           | 2SC1583,2SC5168  | -                 | A           | RT1N434S-11     | RT1N434S-T112     |
| A           | 2SC1708A         | -                 | A           | RT1N441S-11     | RT1N441S-T112     |
| A           | 2SC1914A         | -                 | A           | RT1P137L        | RT1P137S          |
| A           | 2SC2259,2SC5169  | -                 | A           | RT1P140S-11     | RT1P140S-T112     |
| A           | 2SC2291          | -                 | A           | RT1P141S-11     | RT1P141S-T112     |
| A           | 2SC2320          | 2SC5395           | A           | RT1P144S-11     | RT1P144S-T112     |
| A           | 2SC2320L         | -                 | A           | RT1P241S-11     | RT1P241S-T112     |
| A           | 2SC2603          | 2SC5395           | A           | RT1P430S-11     | RT1P430S-T112     |
| A           | 2SC2724          | 2SC5397           | A           | RT1P434S-11     | RT1P434S-T112     |
| A           | 2SC3242          | ISC3242AS1        | A           | RT1P441S-11     | RT1P441S-T112     |
| A           | 2SC3242A         | ISC3242BS1        | A           | RT1XXXXT2       | -                 |
| A           | 2SC3243          | 2SC5482           | A           | RT2A00M         | RT2A00AM1         |
| A           | 2SC3244          | ISC3244AS1        | A           | RT3AMMM         | RT3AMMAM1         |
| A           | 2SC3245          | -                 |             |                 |                   |
| A           | 2SC3245A         | -                 |             |                 |                   |
| A           | 2SC3246          | 2SC5484           |             |                 |                   |
| A           | 2SC3247          | ISC3247AS1        |             |                 |                   |
| A           | 2SC3249          | ISC3249AS1        |             |                 |                   |
| A           | 2SC3580          | 2SC5485           |             |                 |                   |
| A           | 2SC3581          | ISC3581AS1        |             |                 |                   |
| A           | 2SC3728          | -                 |             |                 |                   |

C:保守品種

A:廃止品種

C:Conservativeness

A:Abolition

# 事業所/海外販売及び生産拠点

## Location/Overseas Sales Office and Production Facilities

### <本社 Head Office >

〒854-0065 長崎県諫早市津久葉町6-41  
6-41 Tsukuba, Isahaya, Nagasaki, 854-0065, JAPAN  
TEL (0957)26-3592(代) FAX (0957)26-5257

### <販売拠点 Sales Offices >

◎大阪営業本部 大阪府大阪市北区堂山町1-5 三共梅田ビル9階  
Osaka 9F Sankyou-Umeda Bldg. 1-5 Doyama, kita-ku, Osaka, Osaka, 530-0027, JAPAN  
TEL (06)4709-7218 (代) FAX (06)4709-7359

◎香港 ISAHAYA ELECTRONICS SALES ASIA LTD.  
Hong Kong Unit 705, 7/F, Ocean Building, 80 Shanghai Street, Jordan, Kowloon, Hong Kong  
TEL : 852-2570-2238 FAX : 852-2570-5438

◎シンガポール ISAHAYA ELECTRONICS SALES SINGAPORE PTE. LTD.  
Singapore 10 Anson Road, #24-02/02A International Plaza, Singapore 079903  
TEL : 65-6227-7714 (代) FAX : 65-6227-7716

◎アメリカ ISAHAYA ELECTRONICS SALES ASIA LTD. U.S.A. OFFICE  
U.S.A 8765 Aero Drive #316 San Diego, CA 92123, U.S.A.  
TEL : 1-858-598-6793 FAX : 1-858-598-6840

### <開発・生産拠点 Production Facilities >

○津久葉ラボラトリー 長崎県諫早市津久葉町6-41  
Nagasaki. Isahaya 6-41 Tsukuba, Isahaya, Nagasaki, 854-0065, JAPAN  
(Tsukuba) TEL (0957)25-8100(代) FAX (0957)26-4585

○諫早ラボラトリー 長崎県諫早市貝津町1830-25  
Nagasaki. Isahaya 1830-25 Kaizu, Isahaya, Nagasaki, 854-0063, JAPAN  
TEL (0957)26-3684(代) FAX (0957)27-1187

○中国/深圳 ISAHAYA ELECTRONICS TECHNOLOGY (SHENZHEN) Co., Ltd.  
China, Shen Zhen The 3rd Industrial Estate, Fenghuang Resident's Committee, Fuyong Street,  
Baoan District, Shen Zhen City, Guangdong, China 518103

○フィリピン/ラグナ ISAHAYA ELECTRONICS PHILIPPINES INC.  
Philippines. Laguna Building G, IMI, North, Science Ave. Laguna Technopark, Binan, Laguna, Philippines  
TEL /FAX : 63-49-541-0030

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