



# ***SELECTION GUIDE***

*for Power Electronics*

 イサハヤ電子株式会社  
ISAHAYA ELECTRONICS

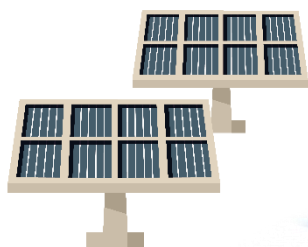
*Vol.1*

# More Dreams, More Challenges

イサハヤ電子のパワーモジュール製品は、カーボンニュートラル実現に向け、様々な分野で貢献しています。

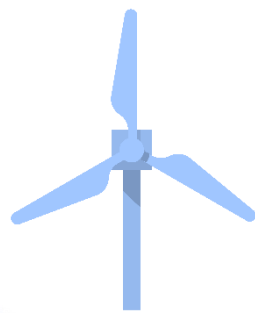
夢と挑戦を続けるイサハヤ電子です。

Isahaya Electronics' power module products contribute to achieving carbon neutrality in various fields. Isahaya Electronics continues to pursue our dreams and challenges.



Solar power

創エネ  
Energy Generation



Wind power



省エネ

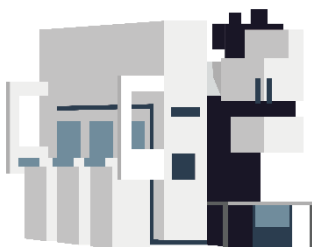
Energy Saving

蓄エネ

Energy Storage



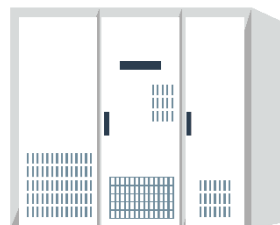
Machine tool



Manufacture machine



EV charging stand



UPS

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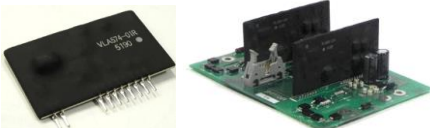
|                                 |            |   |
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## ■ 製品紹介 Products

For more information ⇒ <https://www.idc-com.co.jp>

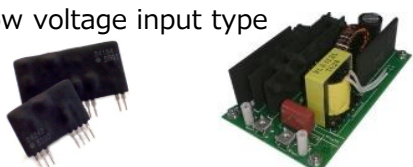
### ゲートドライバ Gate Drivers

- I) オンボード・電源非内蔵  
Non built in gate power supply
- II) オンボード・電源内蔵  
Built in gate power supply
- III) ユニット・パワーモジュール非搭載タイプ  
Module non-mountable type
- IV) ユニット・パワーモジュール搭載タイプ  
Module mountable type



### DC/DCコンバータ DC/DC Converters

- I) 非絶縁型  
Non-isolated DC/DC converter
- II) 絶縁型  
Isolated DC/DC converter
- III) 高電圧入力タイプ  
High voltage input type
- IV) 低電圧入力タイプ  
Low voltage input type



### カスタム電源 Custom Power Supply

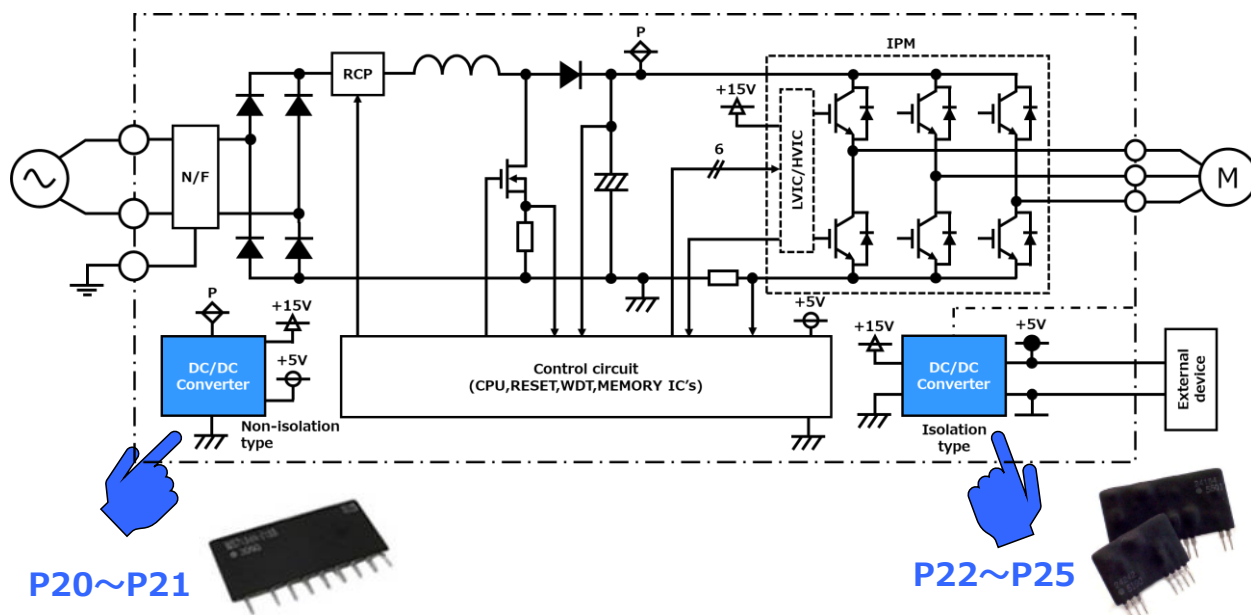
- I) 絶縁多出力電源  
Isolated multiple output power supply
- II) 力率改善 (PFC)  
Power Factor Correction
- III) インバータ  
Inverter



## ■ 用途例 Application example

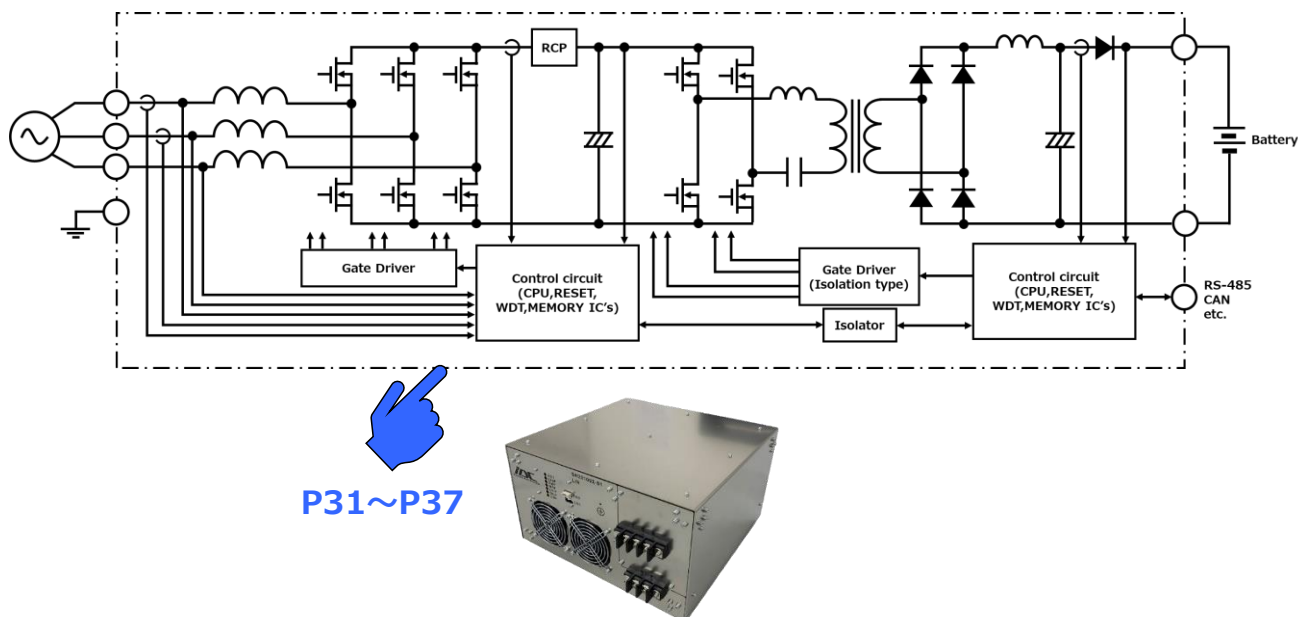
### ◆インバータ機器（小容量、制御回路非絶縁）

Inverter (Small capacity, Non-isolated control circuit)



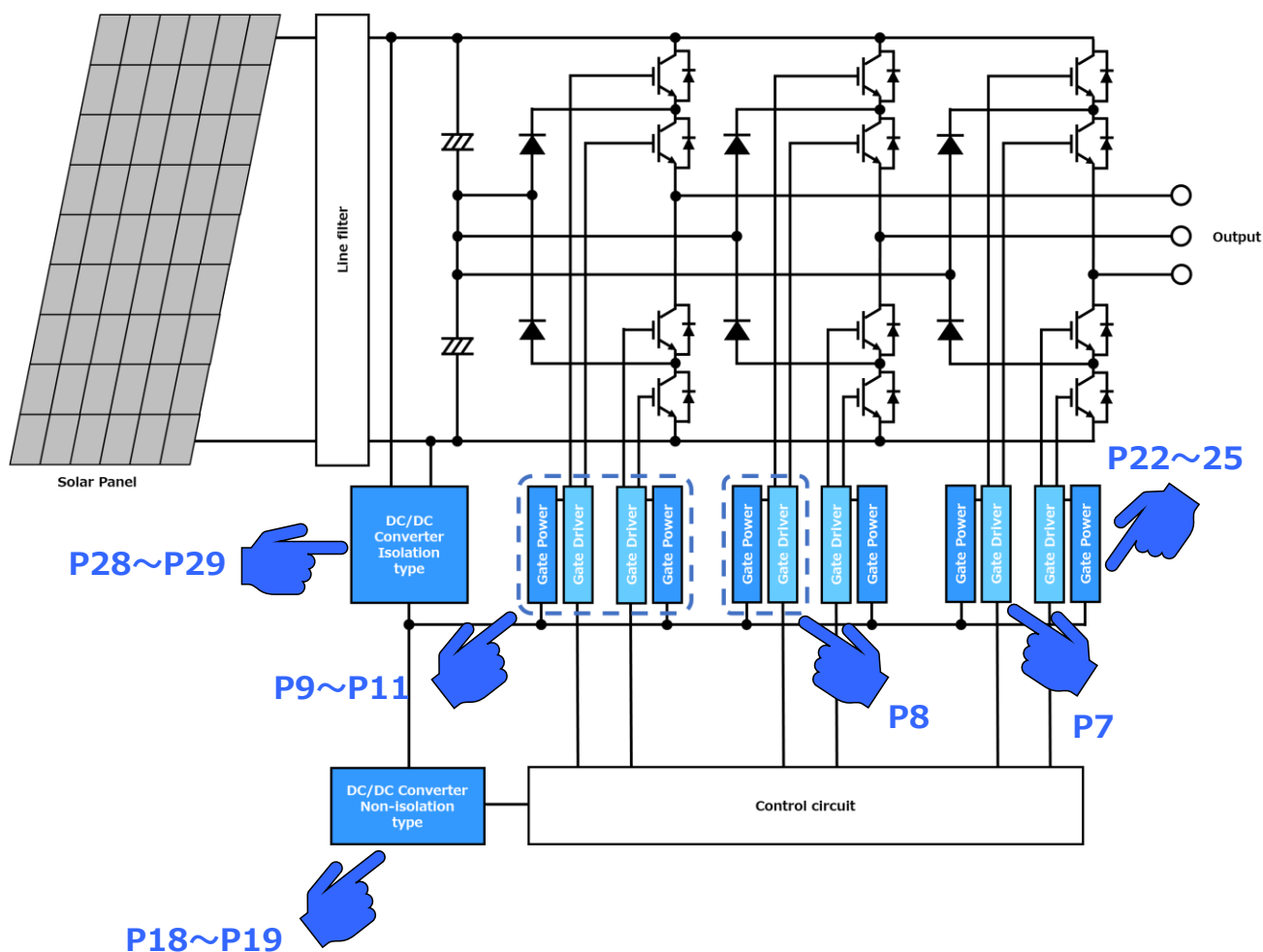
### ◆バッテリー充電器（デジタル制御、カスタム対応可能）

Battery charger (Digital control, Customization available)



## ■ 用途例 Application example

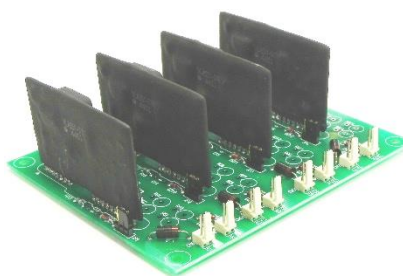
### ◆ 太陽光発電インバータ（大容量） Photovoltaic Inverter (High capacity)



**絶縁型 高電圧入力  
DC/DC コンバータ**  
High voltage input type  
isolated DC/DC converter



**多チャンネル  
IGBTドライバ ユニット**  
Multichannel  
IGBT driver unit



**モジュール搭載型  
IGBTドライバ**  
Module mountable type  
IGBT driver

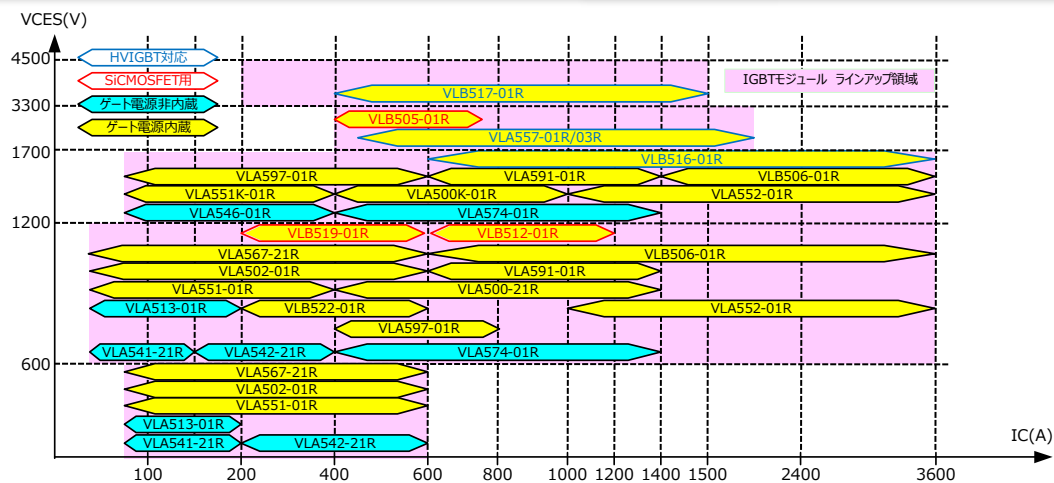


## ■ 特徴 Feature

イサハヤ製のゲートドライバは、50Aから3600Aクラスのパワーモジュールに幅広く対応しております。ほとんどの製品には短絡保護回路を内蔵しており、安全にパワー素子の短絡破壊を防ぐことができます。

ISAHAYA gate drivers support the power module for the wide area (50A to 3600A class). It has a short-circuit protection circuit built-in in most products, and short destruction of power device can be stopped safely.

■ 対応領域 (目安)    Cover Area Map (rough standard)



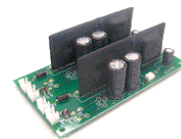
※あくまでも目安となりますので、詳細はP12～のIGBTモジュール対応表をご参照ください。

※This is ever a rough standard, so see guide table for IGBT modules (P12~) for more information.

## ■ 製品体系図 Products Matrix



**オンボードタイプ<sup>®</sup>**  
**(ハイブリッドIC)**  
ON-BOARD type  
(Hybrid ICs)



ユニットタイプ°  
Unit Type



**ゲート電源非内蔵**  
Non built in  
gate power supply

P7

**ゲート電源内蔵**  
Built in  
gate power supply

P8

パワーモジュール  
非搭載型  
Module  
non-mountable type

P9

パワーモジュール  
搭載型  
Module  
mountable type

P11

入出力が絶縁されたゲートドライバのみのシンプルなスタンダード製品。別途ゲート電源をご用意いただく必要があります。  
Simple and standard product only of the gate drive circuit by whom I/O was insulated. It's necessary to prepare a special gate power supply.

**ゲート電源内蔵のゲートドライバ。単電源の供給のみでパワーモジュールの駆動が可能です。**  
Gate driver of gate power supply having within. It's possible to drive a power module only by supply of a single power supply.

基板上にオンボードタイプのゲートドライバを複数回路搭載したゲートドライブユニット。評価用にも最適。  
The gate drive unit into which a gate driver of on-board-type was loaded on the substrate more than one circuits. It's also most suitable for evaluation.

**パワーモジュールに直接搭載可能なゲートドライブユニット。  
ゲート配線長を最短で接続することが可能です。**  
The gate drive by which loading is possible directly  
mountable a power module. It's possible to connect the  
gate wiring length by the shortest course.

## ■ スペックマップ Spec Map

| Structure | Gate power supply | Isolation voltage between primary and secondary                                                                                                                        |                                                                                                                                                                                                                                                               |                                                                                                                                         |
|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|           |                   | 2.5kVrms                                                                                                                                                               | 4kVrms                                                                                                                                                                                                                                                        | 6kVrms                                                                                                                                  |
| SIP       | Non built in      | M57159L (1.5A)<br>VLA531 (2.5A)<br>VLA507(3A)<br>VLA541 (3A)<br>VLA513(5A)<br>M57962AL (5A)<br>VLA542 (5A)<br>VLA520(5A)                                               | VLA546 (5A)<br>VLA574 (15A)                                                                                                                                                                                                                                   |                                                                                                                                         |
|           | Built in          | VLA551(5A)<br>VLA500(12A)<br>VLA502(12A)                                                                                                                               | VLA551K(5A)<br>VLA500K(12A)<br>VLA552(24A)<br>VLA554(24A)<br>VLB506(40A)                                                                                                                                                                                      |                                                                                                                                         |
| DIP       | Built in          | VLA567 (8A)<br>VLB522 (9A)                                                                                                                                             | VLA597 (10A)<br>VLA591 (20A)                                                                                                                                                                                                                                  |                                                                                                                                         |
| Unit      | Non built in      | VLA586(7A) for FMF800DX-24A/B                                                                                                                                          |                                                                                                                                                                                                                                                               |                                                                                                                                         |
|           | Built in          | VLB524(9A) for EconoDUAL<br>VLA536(5A) for EconoDUAL<br>VLA592(5A) for EconoDUAL<br>GAU205S-15252(5A)<br>GAU209P-15252(9A)<br>GAU212S-15255(12A)<br>GAU212P-15255(12A) | VLA598(10A) for EconoDUAL<br>VLA593(20A) for PrimePACK<br>GAU220P-15402(20A)<br>GAU240P-15405(40A)<br>VLB519(30A) for SiC-MOSFET<br>VLB512(30A) for SiC-MOSFET<br>VLB514+VLB515(20A) for Industrial LV100 type<br>VLB525+VLB526(30A) for FMF600DXE-24BN(34BN) | VLA557-01R(24A)<br>VLA557-03R(24A)<br>VLB505(36A) for FMF750DC-66A<br>VLB516(40A)<br>VLB517(40A) for VCES 4.5kV module (Viso 10.2kVrms) |

( ) : Output peak current for gate

## ■ 構造例 Structure Example

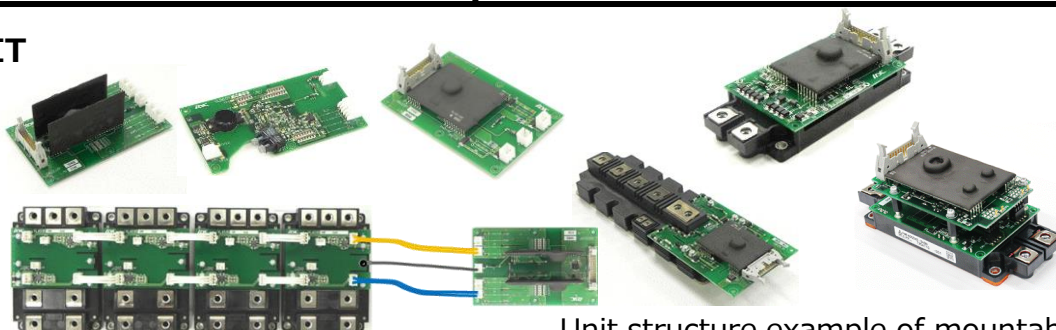
### SIP



### DIP



### UNIT



Unit structure example of mountable

## ■ オンボード ゲート電源非内蔵 On-board, Non built in gate power supply



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

| 形名<br>Type Name     | ターゲット<br>IGBTモジュール仕様<br>Targeted IGBT<br>Module<br>Specification | 構造<br>Structure | 機能<br>Function  |                       | 絶縁耐圧<br>Isolation |           | 電源電圧<br>Power<br>Supply<br>VCC/<br>VEE<br>(V) | 出力<br>数<br><3> | 出力<br>Output |              |            | サイズ<br>Size<br>(H x W<br>x D)<br>(mm) | 備考<br>Note                             |
|---------------------|------------------------------------------------------------------|-----------------|-----------------|-----------------------|-------------------|-----------|-----------------------------------------------|----------------|--------------|--------------|------------|---------------------------------------|----------------------------------------|
|                     |                                                                  |                 | 短絡<br>保護<br><1> | 遮断<br>時間<br>調整<br><2> | 2500<br>V         | 4000<br>V |                                               |                | tPLH<br>(us) | tPHL<br>(us) | IOP<br>(A) |                                       |                                        |
| M57159L-01R         | 600V,~150A<br>1200V,~75A                                         | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 1.3          | 1.3          | ±1.5       | 22 x 43<br>x 11                       |                                        |
| VLA531-01R          | 600V,~200A<br>1200V,~150A                                        | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 1.3          | 1.3          | ±2.5       | 18 x 42<br>x 6.5                      | Simple<br>protection<br>circuit        |
| VLA507-01R          | 600V,~200A<br>1200V,~150A                                        | SIP             | —               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 0.8          | 0.9          | ±3         | 20 x 30<br>x 7                        |                                        |
| VLA541-21R          | 600V,~200A<br>1200V,~150A                                        | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 1            | 1            | ±3         | 26 x 44<br>x 8                        | Pin<br>compatible<br>with<br>M57959AL  |
| VLA513-01R          | 600V,~200A<br>1200V,~200A                                        | SIP             | —               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 0.5          | 0.5          | ±5         | 27 x 48<br>x 7                        | fsw≤60kHz                              |
| M57962AL<br>-01R-03 | 600V,~600A<br>1200V,~400A                                        | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 1            | 1.3          | ±5         | 25 x 51<br>x 12                       |                                        |
| VLA542-21R          | 600V,~600A<br>1200V,~400A                                        | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 1            | 1            | ±5         | 26 x 44<br>x 8                        | Pin<br>compatible<br>with<br>M57962AL  |
| VLA520-01R          | 600V,~600A<br>1200V,~450A                                        | SIP             | ○               | —                     | ○                 | —         | +15V/<br>-10V                                 | 1              | 0.8          | 0.7          | ±5         | 27 x 45<br>x 12                       | Built-in<br>error<br>Signal<br>coupler |
| VLA546-01R          | 600V,~600A<br>1200V,~400A<br>1700V,~400A                         | SIP             | ○               | ○                     | —                 | ○         | +15V/<br>-10V                                 | 1              | 1            | 1            | ±5         | 26 x 44<br>x 9                        | Pin<br>compatible<br>with<br>M57962CL  |
| VLA574-01R          | 600V,~600A<br>1200V,~1400A<br>1700V,~1400A                       | SIP             | ○               | ○                     | —                 | ○         | +15V/<br>-10V                                 | 1              | 1            | 1            | ±15        | 32 x 51<br>x 8.5                      |                                        |

## ■ モジュール用アダプタ基板 Adaptor board for power modules

| 形名<br>Type Name | ターゲット<br>IGBTモジュール仕様<br>Targeted IGBT Module<br>Specification | 機能<br>Function                                                                                                            | サイズ / Size<br>(H x L x W)<br>(mm) | 備考<br>Note          |
|-----------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------|
| VLA595-01R      | 3300V,~600A                                                   | LV100 タイプ向け 並列接続用TLAC内蔵アダプタ基板<br>Adaptor board with built-in TLAC for parallel<br>connection for LV100 type               | 68 x 99 x 17                      |                     |
| VLA595-02R      | 1200V/1700V,<br>~1200A                                        |                                                                                                                           | 68 x 99 x 17                      |                     |
| VLA595-04R      | 3300V,~750A                                                   |                                                                                                                           | 68 x 99 x 17                      | For<br>FMF750DC-66A |
| VLB520-01R      | 1200V/1700V,<br>~800A                                         | NX(EconoDual)タイプ向け並列接続用TLAC内蔵アダプタ基板<br>Adaptor board with built-in TLAC for parallel<br>connection for NX(EconoDual) type | 64 x 101 x 18                     |                     |
| VLB521-01R      | 3300V,~600A<br>4500V,~450A                                    | HV100 タイプ向け 並列接続用TLAC内蔵アダプタ基板<br>Adaptor board with built-in TLAC for parallel<br>connection for HV100 type               | 83 x 99 x 17                      |                     |

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of our website carrying about the specification.

## ■ オンボード ゲート電源内蔵 On-board, Built in gate power supply type



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

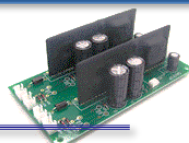
| 形名<br>Type Name | ターゲット<br>IGBTモジュール仕様<br>Targeted IGBT<br>Module<br>Specification | 構造<br>Structure | 機能<br>Function  |                       | 絶縁耐圧<br>Isolation |           | 電源<br>電圧<br>Power<br>Supply<br>(V) | 出力<br>Output   |              |              |            | サイズ<br>Size<br>(H x W<br>x D)<br>(mm) | 備考<br>Note                              |
|-----------------|------------------------------------------------------------------|-----------------|-----------------|-----------------------|-------------------|-----------|------------------------------------|----------------|--------------|--------------|------------|---------------------------------------|-----------------------------------------|
|                 |                                                                  |                 | 短絡<br>保護<br><1> | 遮断<br>時間<br>調整<br><2> | 2500<br>V         | 4000<br>V |                                    | 出力<br>数<br><3> | tPLH<br>(us) | tPHL<br>(us) | IOP<br>(A) |                                       |                                         |
| VLA500-21R      | 600V,~600A<br>1200V,~1400A                                       | SIP             | ○               | ○                     | ○                 | —         | VD=+15V                            | 1              | 1            | 1.3          | ±12        | 33 x 83<br>x 15.5                     |                                         |
| VLA500-02R      | 600V,~600A<br>1200V,~1400A                                       | SIP             | ○               | ○                     | ○                 | —         | VD=+24V                            | 1              | 1            | 1.3          | ±12        | 33 x 83<br>x 15.5                     |                                         |
| VLA500K-11R     | 1200V,~1400A<br>1700V,~1000A                                     | SIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 1              | 1            | 1            | ±12        | 33 x 83<br>x 17                       |                                         |
| VLA502-01R      | 600V,~600A<br>1200V,~600A                                        | SIP             | ○               | ○                     | ○                 | —         | VD=+15V                            | 1              | 0.65         | 0.65         | ±12        | 33 x 83<br>x 15.5                     | fsw≤60kHz                               |
| VLA551-01R      | 600V,~600A<br>1200V,~400A                                        | SIP             | ○               | ○                     | ○                 | —         | VD=+15V                            | 1              | 1            | 1            | ±5         | 39 x 63<br>x 15.5                     |                                         |
| VLA551K-01R     | 1200V,~400A<br>1700V,~400A                                       | SIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 1              | 1            | 1            | ±5         | 39 x 63<br>x 15.5                     |                                         |
| VLA552-01R      | 1200V,~3600A<br>1700V,~3600A                                     | SIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 1              | 1.5          | 1.5          | ±24        | 42 x 88<br>x 17                       |                                         |
| VLA554-01R      | 1200V,~3600A<br>1700V,~3600A                                     | SIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 1              | 1            | 1            | ±24        | 42 x 88<br>x 17                       | Opto-coupler<br>less for gate<br>signal |
| VLA567-21R      | 600V,~600A<br>1200V,~600A                                        | DIP             | ○               | ○                     | ○                 | —         | VD=+15V                            | 2              | 0.8          | 0.8          | ±8         | 17 x 62<br>x 48                       |                                         |
| VLA591-01R      | 1200V,~1400A<br>1700V,~1400A                                     | DIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 2              | 0.4          | 0.3          | ±20        | 19 x 68<br>x 53                       | fsw≤50kHz                               |
| VLA597-01R      | 1200V,~800A<br>1700V,~600A                                       | DIP             | ○               | —                     | —                 | ○         | VD=+15V                            | 2              | 0.3          | 0.3          | ±10        | 18 x 62<br>x 47                       |                                         |
| VLB506-01R      | 1200V,~3600A<br>1700V,~3600A                                     | SIP             | ○               | ○                     | —                 | ○         | VD=+15V                            | 1              | 0.4          | 0.3          | ±40        | 42.5 x<br>78.5 x<br>15                |                                         |
| VLB522-01R      | 600V,~600A<br>1200V,~600A                                        | DIP             | ○               | —                     | ○                 | —         | VD=+15V                            | 2              | 0.4          | 0.3          | ±9         | 18 x 62<br>x 47                       |                                         |

New

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of our website carrying about the specification.

## ■ ユニット モジュール非搭載型 Unit, Module non-mountable type



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

| 形名<br>Type<br>Name | ターゲット<br>IGBTモジュール仕様<br>Targeted IGBT<br>Module<br>Specification | 機能<br>Function  |                       | 絶縁耐圧 Isolation |       |             | 電源<br>電圧<br>Power<br>Supply<br>(V) | 出力<br>Output |              |              |            | サイズ<br>Size<br>(W x D<br>x T)<br>(mm) | 備考<br>Note                  |
|--------------------|------------------------------------------------------------------|-----------------|-----------------------|----------------|-------|-------------|------------------------------------|--------------|--------------|--------------|------------|---------------------------------------|-----------------------------|
|                    |                                                                  | 短絡<br>保護<br><1> | 遮断<br>時間<br>調整<br><2> | 2500V          | 4000V | 6000V       |                                    | 出力数<br><3>   | tPLH<br>(us) | tPHL<br>(us) | IOP<br>(A) |                                       |                             |
| GAU205S<br>-15252  | 600V,~200A<br>1200V,~200A                                        | -               | -                     | ○              | -     | -           | VD=<br>+15V                        | 2            | 0.5          | 0.5          | ±5         | 65 x 95<br>x 43                       | fsw≤<br>60kHz               |
| GAU205P<br>-15252A | 600V,~600A<br>1200V,~400A                                        | ○               | -                     | ○              | -     | -           | VD=<br>+15V                        | 2            | 1            | 1            | ±5         | 65 x 95<br>x 43                       |                             |
| GAU405P<br>-15252  | 600V,~600A<br>1200V,~400A                                        | ○               | -                     | ○              | -     | -           | VD=<br>+15V                        | 4            | 1            | 1            | ±5         | 120x100<br>x 44                       |                             |
| GAU605P<br>-15252  | 600V,~600A<br>1200V,~400A                                        | ○               | -                     | ○              | -     | -           | VD=<br>+15V                        | 6            | 1            | 1            | ±5         | 188x100<br>x 44                       |                             |
| GAU212S<br>-15255  | 600V,~600A<br>1200V,~1400A                                       | -               | -                     | ○              | -     | -           | VD=<br>+15V                        | 2            | 0.65         | 0.65         | ±12        | 60 x 120<br>x 40                      | fsw≤<br>60kHz               |
| GAU212P<br>-15255  | 600V,~600A<br>1200V,~1400A                                       | ○               | ○                     | ○              | -     | -           | VD=<br>+15V                        | 2            | 1            | 1.3          | ±12        | 65 x 120<br>x 40                      |                             |
| GAU209P<br>-15252  | 600V,~600A<br>1200V,~600A                                        | ○               | ○                     | ○              | -     | -           | VD=<br>+15V                        | 2            | 0.8          | 0.8          | ±9         | 70 x 108<br>x 25                      |                             |
| GAU215P<br>-15405  | 1200V,~1400A<br>1700V,~1400A                                     | ○               | ○                     | -              | ○     | -           | VD=<br>+15V                        | 2            | 1            | 1            | ±15        | 77 x 100<br>x 38                      |                             |
| GAU220P<br>-15402  | 600V,~600A<br>650V,~600A<br>1200V,~1400A<br>1700V,~1800A         | ○               | ○                     | -              | ○     | -           | VD=<br>+15V                        | 2            | 0.4          | 0.3          | ±20        | 80 x 125<br>x 33                      |                             |
| GAU240P<br>-15405  | 1200V,~1400A<br>1700V,~1800A                                     | ○               | ○                     | -              | ○     | -           | VD=<br>+15V                        | 2            | 0.4          | 0.3          | ±40        | 80 x 130<br>x 48                      |                             |
| VLA557<br>-01R     | 3300V,~1500A                                                     | ○               | ○                     | -              | -     | ○           | VD=<br>+15V                        | 1            | 0.8          | 0.5          | ±24        | 83 x 150<br>x 21                      |                             |
| VLA557<br>-03R     | 3300V,~600A                                                      | ○               | ○                     | -              | -     | ○           | VD=<br>+15V                        | 1            | 0.8          | 0.5          | ±24        | 83 x 150<br>x 21                      | For<br>LV100                |
| VLB505<br>-01R     | 3300V,750A                                                       | ○               | -                     | -              | -     | ○           | VD=<br>+15V                        | 1            | 0.8          | 0.5          | ±36        | 83 x 150<br>x 14                      | For<br>FMF75<br>0DC-<br>66A |
| VLB512<br>-01R     | 1200V,1200A<br>1700V,1200A                                       | ○               | -                     | -              | ○     | -           | VD=<br>+15V                        | 2            | 0.6          | 0.55         | ±30        | 90 x 145                              | For<br>RTC                  |
| VLB519<br>-01R     | 1200V,600A<br>1700V,600A                                         | ○               | -                     | -              | ○     | -           | VD=<br>+15V                        | 2            | 0.6          | 0.55         | ±30        | 80 x 130                              | For<br>RTC                  |
| VLB516<br>-01R     | 1700V,~3600A                                                     | ○               | ○                     | -              | -     | ○           | VD=<br>+15V                        | 1            | 0.8          | 0.6          | ±40        | 78 x 130<br>x 13.6                    |                             |
| VLB517<br>-01R     | 3300V,1800A<br>4500V,1500A                                       | ○               | ○                     | -              | -     | ○<br>10.2kV | VD=<br>+15V                        | 1            | 0.8          | 0.6          | ±40        | 100 x 150<br>x 23                     |                             |

## ■ 開発区分

New

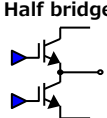
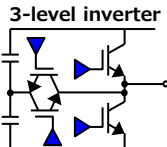
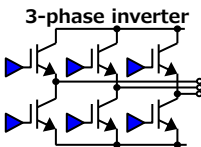
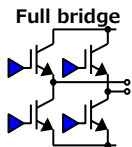
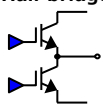
サンプル対応中 Samples available

UD

開発中 サンプルについてはお問い合わせください

Under development. Please ask for sample availability.

## GAUシリーズセレクションマップ Selection Map (参考 Reference)

| IGBT VCES | Output IC | Output Num. | Gate driver unit | Gate driver DC/DC CONVERTER              | Application example                                                                                         |
|-----------|-----------|-------------|------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| ~1200V    | 200A      | 2           | GAU205S-15252    | VLA513-01R (x2)<br>VLA106-15242 (x2)     |  <p>Half bridge</p>      |
|           |           |             | GAU205P-15252A   | VLA542-11R (x2)<br>VLA106-15242 (x2)     |                                                                                                             |
|           | 400A      | 4           | GAU405P-15252    | VLA551-01R (x4)<br>(Built in DC/DC type) |  <p>3-level inverter</p> |
|           |           | 6           | GAU605P-15252    | VLA551-01R (x6)<br>(Built in DC/DC type) |  <p>3-phase inverter</p>  |
|           | 600A      | 2           | GAU209P-15252    | VLB522-01R (x1)<br>(Built in DC/DC type) |  <p>Full bridge</p>     |
|           | 1400A     |             | GAU212S-15255    | VLA502-01R (x2)<br>(Built in DC/DC type) |                                                                                                             |
|           |           |             | GAU212P-15255    | VLA500-01R (x2)<br>(Built in DC/DC type) |  <p>Half bridge</p>    |
|           | 1400A     |             | GAU215P-15405    | VLA574-01R (x2)<br>VLA134-15255 (x2)     |                                                                                                             |
|           | 1800A     |             | GAU220P-15402    | VLA591-01R (x1)<br>(Built in DC/DC type) |                                                                                                             |
|           | 3600A     |             | GAU240P-15405    | VLB506-01R (x2)<br>(Built in DC/DC type) |                                                                                                             |
| 1700V     |           |             |                  |                                          |                                                                                                             |

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of our website carrying about the specification.

## ■ ユニット パワーモジュール搭載型 Unit, Power Module mountable type



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

| 形名<br>Type Name             | 用途<br>Application                                       | 機能<br>Function   |             |               | 絶縁耐圧<br>Isolation |        | 電源電圧<br>Power Supply (V) | 出力<br>Output |           |           |         | サイズ<br>Size<br>(W x D x T)<br>(mm) | 備考<br>Note          |
|-----------------------------|---------------------------------------------------------|------------------|-------------|---------------|-------------------|--------|--------------------------|--------------|-----------|-----------|---------|------------------------------------|---------------------|
|                             | IGBTモジュール仕様<br>IGBT Module Specification                | 高速<br>High Speed | 短絡保護<br><1> | 遮断時間調整<br><2> | 2500 V            | 4000 V |                          | 出力数<br><3>   | tPLH (us) | tPHL (us) | IOP (A) |                                    |                     |
| VLA559-01R                  | For Prime PACK VCES:1200V series                        | -                | ○           | -             | -                 | ○      | VD=+15V                  | 2            | 1         | 1         | ±24     | 44.6 x 149 x 95                    | Built-in VLA552-01R |
| VLA586-01R                  | For MITSUBISHI FMF800DX-24B (SiC-MOSFET)                | -                | ○           | -             | ○                 | -      | VCC=+16V<br>VEE=-13V     | 2            | 1         | 0.8       | ±7      | 128 x 65.5 x 30                    |                     |
| VLA592-01R                  | For Econo Dual 1200V,450A                               | -                | ○           | -             | ○                 | -      | VD=+15V                  | 2            | 0.8       | 0.7       | ±5      | 30.6 x 101 x 64                    | Built-in VLA520-01R |
| VLA593-11R                  | For Prime PACK 1700V,~1400A                             | ○                | ○           | -             | -                 | ○      | VD=+15V                  | 2            | 0.4       | 0.3       | ±20     | 24.6 x 149 x 94                    | Built-in VLA591-01R |
| VLA598-01R                  | For Econo Dual 1200V,800A                               | ○                | ○           | -             | -                 | ○      | VD=+15V                  | 2            | 0.18      | 0.16      | ±10     | 31.4 x 101 x 64                    | Built-in VLA597-01R |
| VLA598-11R                  | For Econo Dual 1700V,600A                               | ○                | ○           | -             | -                 | ○      | VD=+15V                  | 2            | 0.18      | 0.16      | ±10     | 31.4 x 101 x 64                    | Built-in VLA597-01R |
| New VLB524-01R              | For Econo Dual 650V,600A 1200V,600A                     | -                | ○           | -             | ○                 | -      | VD=+15V                  | 2            | 0.8       | 0.8       | ±9      | 57.5 x 101 x 32                    | Built-in VLB522-01R |
| New VLB514-01R + VLB515-01R | For Industrial LV100 1200V/1700V,1200A                  | ○                | ○           | -             | -                 | ○      | VD=+15V                  | 2            | 0.29      | 0.15      | ±20     | 68 x 99 x 48                       | Built-in VLA591-01R |
| New VLB525-01R + VLB526-01R | For MITSUBISHI FMF600DX-24BN FMF600DX-34BN (SiC-MOSFET) | ○                | -           | -             | -                 | ○      | VD=+15V                  | 2            | 0.35      | 0.3       | ±30     | 64 x 101 x 51                      |                     |

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of our website carrying about the specification.

## ■ 三菱IGBTモジュール対応表 Guide table for Mitsubishi Electric's IGBT modules

Character Symbol ... (D) Gate Driver, (P) Gate Power supply,  
(H) Built in gate power supply type Gate Driver

| <For T series NX type> T series : 7th generation Mitsubishi Electric IGBT modules |                                            |      |                                                  |                                           |                                            |                                                    |      |                        |
|-----------------------------------------------------------------------------------|--------------------------------------------|------|--------------------------------------------------|-------------------------------------------|--------------------------------------------|----------------------------------------------------|------|------------------------|
| VCES \ IC                                                                         | 100A                                       | 150A | 200A                                             | 225A                                      | 300A                                       | 450A                                               | 600A | 800A/1000A             |
| 650V                                                                              | (D)VLA541<br>(P)VLA106<br>(H)VLA567,VLB522 |      |                                                  | No IGBT                                   | (D)VLA541<br>(P)VLA106<br>(H)VLA567,VLB522 | (D)VLA542, VLA546<br>(P)VLA106<br>(H)VLA567,VLB522 |      | No IGBT                |
| 1200V                                                                             | (D)VLA541, (P)VLA106<br>(H)VLA567,VLB522   |      | (D)VLA542, VLA546, (P)VLA106<br>(H)VLA567,VLB522 |                                           |                                            | (H)VLA567,VLA597,<br>VLB522,VLA591,                |      | (H)VLA500<br>(H)VLA591 |
| 1700V                                                                             | (D)VLA546, (P)VLA124<br>(H)VLA551K,VLA597  |      | No IGBT                                          | (D)VLA546, (P)VLA124<br>(H)VLA551K,VLA597 |                                            | (H)VLA500K, VLA591,<br>VLA597                      |      | No IGBT                |

| <For T series std. type>      T series : 7th generation Mitsubishi Electric IGBT modules |                                                   |      |                                                    |         |                                                    |                                                              |                                                    |
|------------------------------------------------------------------------------------------|---------------------------------------------------|------|----------------------------------------------------|---------|----------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------|
| VCES \ IC                                                                                | 100A                                              | 150A | 200A                                               | 300A    | 400A                                               | 450A                                                         | 600A                                               |
| 650V                                                                                     | (D)VLA541<br>(P)VLA106<br>(H)VLA567,VLB522        |      |                                                    |         | (D)VLA542, VLA546<br>(P)VLA106<br>(H)VLA567,VLB522 | No IGBT                                                      | (D)VLA542, VLA546<br>(P)VLA106<br>(H)VLA567,VLB522 |
| 1200V                                                                                    | (D)VLA541<br>(P)VLA106<br>(H)VLA567,VLB522        |      | (D)VLA542, VLA546<br>(P)VLA106<br>(H)VLA567,VLB522 |         | No IGBT                                            | (D)VLA542, VLA546<br>(P)VLA106,(H)VLA567<br>(H)VLB522,VLA597 | (H)VLA567,VLB522<br>(H)VLA591,VLA597               |
| 1700V                                                                                    | (D)VLA546, (P)VLA124<br>(H)VLA551K, VLA597,VLA591 |      |                                                    |         |                                                    | No IGBT                                                      |                                                    |
| 2000V                                                                                    | No IGBT                                           |      | VLB506                                             | No IGBT | VLB506                                             | No IGBT                                                      |                                                    |

| <For T series LV100 type> T series : 7th generation Mitsubishi IGBT modules |                  |                  |
|-----------------------------------------------------------------------------|------------------|------------------|
| VCES \ IC                                                                   | 800A             | 1200A            |
| 1200V                                                                       | (H)VLA591,VLB506 | (H)VLA591,VLB506 |
| 1700V                                                                       | (H)VLA591,VLB506 | (H)VLA591,VLB506 |
| 2000V                                                                       | No IGBT          | (H)VLB506        |

| <For NFH series> NFH series : MITSUBISHI high frequency switching IGBT modules<br>~ Up to 60kHz use ~ |           |      |      |           |      |           |
|-------------------------------------------------------------------------------------------------------|-----------|------|------|-----------|------|-----------|
| VCES \ IC                                                                                             | 100A      | 150A | 200A | 300A      | 400A | 600A      |
| 600V                                                                                                  | (D)VLA513 |      |      | (H)VLA502 |      | No Driver |
| 1200V                                                                                                 | (D)VLA513 |      |      | (H)VLA502 |      |           |

Note) 600V,100A Class → CM100DUS-12F / 600V,150A Class → CM150DUS-12F

## <For 3-Level IGBT CM400ST-24T / CM400ST-24T>

| Power Module | Ratings                                                  | Bridge part                          | AC switch part         |
|--------------|----------------------------------------------------------|--------------------------------------|------------------------|
| CM200ST-24T  | Bridge part : 1200V / 200A<br>AC switch part : 650V/200A | (H)VLA567,VLB522                     | (D)VLA507<br>(P)VLA106 |
| CM400ST-24T  | Bridge part : 1200V / 400A<br>AC switch part : 650V/400A | (H)VLA567,VLB522<br>(H)VLA500,VLA591 | (D)VLA513<br>(P)VLA106 |

## ■ 富士電機IGBTモジュール対応表 Guide table for Fuji Electric's IGBT modules

Character Symbol ... (D) Gate Driver, (P) Gate Power supply,  
(H) Built in gate power supply type Gate Driver

### < For V series >

| IC<br>VCES | 50A                       | 75A     | 100A                     | 150A | 200A | 225A                                          | 300A                                          | 400A                 | 450A    | 550A                      | 600A                     | 800A | 900A    |
|------------|---------------------------|---------|--------------------------|------|------|-----------------------------------------------|-----------------------------------------------|----------------------|---------|---------------------------|--------------------------|------|---------|
| 600V       | (D) M57159L<br>(P) VLA106 |         | (D) VLA541<br>(P) VLA106 |      |      | No IGBT                                       | (D) VLA542<br>(P) VLA106<br>(H) VLA567,VLB522 |                      | No IGBT |                           | (H) VLA591<br>(H) VLA500 |      | No IGBT |
| 1200V      | (D) M57159L<br>(P) VLA106 |         | (D) VLA541<br>(P) VLA106 |      |      | (D) VLA542<br>(P) VLA106<br>(H) VLA567,VLB522 |                                               | (H) VLA567<br>VLB522 |         |                           | (H) VLA591<br>(H) VLA500 |      |         |
| 1700V      |                           | No IGBT |                          |      |      |                                               | (D)VLA546<br>(P)VLA124<br>(H)VLA597           | No IGBT              |         | (H) VLA591<br>(H) VLA500K |                          |      | No IGBT |

| IC<br>VCES | 1000A             | 1200A             | 1400A | 1600A |
|------------|-------------------|-------------------|-------|-------|
| 600V       | No IGBT           |                   |       |       |
| 1200V      | No IGBT           | (H) VLA552,VLB506 |       |       |
| 1700V      | (H) VLA552,VLB506 |                   |       |       |

### < For X series >

| IC<br>VCES | 75A     | 100A | 150A                             | 200A | 225A | 300A                                     | 400/<br>450A | 600A             | 800A |
|------------|---------|------|----------------------------------|------|------|------------------------------------------|--------------|------------------|------|
| 650V       | No IGBT |      | (D)VLA541<br>(P)VLA106           |      |      | (D)VLA542, (P)VLA106<br>(H)VLA567,VLB522 |              | No IGBT          |      |
| 1200V      | No IGBT |      | (D)VLA541<br>(P)VLA106           |      |      | (D)VLA542, (P)VLA106<br>(H)VLA567,VLB522 |              | (H)VLA567,VLB522 |      |
| 1700V      |         |      | (D)VLA546 (P)VLA124<br>(H)VLA597 |      |      |                                          |              | (H)VLA597        |      |

| < For X series > |                  |       |                  |                  |       |
|------------------|------------------|-------|------------------|------------------|-------|
| IC \ VCES        | 900              | 1000A | 1200A            | 1400A            | 1800A |
| 650V             | No IGBT          |       |                  |                  |       |
| 1200V            | (H)VLA597,VLA591 |       |                  | (H)VLA591,VLB506 |       |
| 1700V            | (H)VLA597,VLA591 |       | (H)VLA591,VLB506 |                  |       |

## ■ インフィニオンIGBTモジュール対応表 Guide table for Infineon's IGBT modules

Character Symbol ... (D) Gate Driver, (P) Gate Power supply,  
(H) Built in gate power supply type Gate Driver

| < For Infineon IGBT3 >           |                           |     |                                        |     |                          |      |                                               |                                               |      |      |                        |                           |         |
|----------------------------------|---------------------------|-----|----------------------------------------|-----|--------------------------|------|-----------------------------------------------|-----------------------------------------------|------|------|------------------------|---------------------------|---------|
| For example : FF300R12KE3 ➔ 300A |                           |     |                                        |     |                          |      |                                               |                                               |      |      |                        |                           |         |
| VCES \ IC                        | 35A                       | 40A | 50A                                    | 75A | 100A                     | 150A | 200A                                          | 225A                                          | 300A | 400A | 450A                   | 600A                      | 800A    |
| 600V<br>650V                     | No IGBT                   |     | (D) M57159L<br>(P) VLA106              |     | (D) VLA541<br>(P) VLA106 |      | (D) VLA542<br>(P) VLA106<br>(H) VLA567,VLB522 |                                               |      |      | (H)VLA591<br>(H)VLA500 |                           | No IGBT |
| 1200V                            | (D) M57159L<br>(P) VLA106 |     |                                        |     | (D) VLA541<br>(P) VLA106 |      |                                               | (D) VLA542<br>(P) VLA106<br>(H) VLA567,VLB522 |      |      |                        | (H) VLA591<br>(H) VLA500  |         |
| 1600V<br>1700V                   | No IGBT                   |     | (D) VLA546<br>(P) VLA124<br>(H) VLA597 |     |                          |      |                                               |                                               |      |      |                        | (H) VLA591<br>(H) VLA500K |         |

| VCES \ IC      | 1200A                    | 1600A      | 1800A   | 2400A             |
|----------------|--------------------------|------------|---------|-------------------|
| 600V<br>650V   | No IGBT                  |            |         |                   |
| 1200V          | (H) VLA591<br>(H) VLA500 | (H) VLA552 | No IGBT | (H) VLA552,VLB506 |
| 1600V<br>1700V | (H) VLA552,VLB506        |            |         |                   |

| < For Infineon IGBT3 Fast > |                           |     |     |     |                          |      |      |         |      |                                               |
|-----------------------------|---------------------------|-----|-----|-----|--------------------------|------|------|---------|------|-----------------------------------------------|
| VCES \ IC                   | 35A                       | 40A | 50A | 75A | 100A                     | 150A | 200A | 225A    | 300A | 400A                                          |
| 1200V                       | (D) M57159L<br>(P) VLA106 |     |     |     | (D) VLA541<br>(P) VLA106 |      |      | No IGBT |      | (D) VLA542<br>(P) VLA106<br>(H) VLA567,VLB522 |

| < For Infineon IGBT4 > |                           |                           |     |                                      |                          |                                             |      |                                             |      |         |                           |         |      |
|------------------------|---------------------------|---------------------------|-----|--------------------------------------|--------------------------|---------------------------------------------|------|---------------------------------------------|------|---------|---------------------------|---------|------|
| VCES \ IC              | 35A                       | 50A                       | 75A | 100A                                 | 150A                     | 200A                                        | 225A | 300A                                        | 400A | 450A    | 600A                      | 650A    | 800A |
| 600V<br>650V           | No IGBT                   | (D) M57159L<br>(P) VLA106 |     | (D) VLA541<br>(P) VLA106             |                          | (D) VLA542, (P) VLA106<br>(H) VLA567,VLB522 |      |                                             |      | No IGBT |                           |         |      |
| 1200V                  | (D) M57159L<br>(P) VLA106 |                           |     |                                      | (D) VLA541<br>(P) VLA106 |                                             |      | (D) VLA542, (P) VLA106<br>(H) VLA567,VLB522 |      |         |                           | No IGBT |      |
| 1600V<br>1700V         | No IGBT                   |                           |     | (D) VLA546, (P) VLA124<br>(H) VLA597 |                          |                                             |      |                                             |      |         | (H) VLA591<br>(H) VLA500K |         |      |

## < For Infineon IGBT4 >

| VCES \ IC      | 900A                   | 1000A                     | 1200A                    | 1400A              | 1600A | 1800A | 2400A | 3600A      |
|----------------|------------------------|---------------------------|--------------------------|--------------------|-------|-------|-------|------------|
| 600V<br>650V   | No IGBT                |                           |                          |                    |       |       |       |            |
| 1200V          | (H)VLA591<br>(H)VLA500 | No IGBT                   | (H) VLA591<br>(H) VLA500 | (H) VLA552, VLB506 |       |       |       |            |
| 1600V<br>1700V | No IGBT                | (H) VLA591<br>(H) VLA500K | (H) VLA552, VLB506       |                    |       |       |       | (H) VLB506 |

## < For Infineon IGBT4 Fast >

| VCES \ IC | 50A                       | 75A | 100A | 150A                     | 200A | 300A                                         | 450A |
|-----------|---------------------------|-----|------|--------------------------|------|----------------------------------------------|------|
| 1200V     | (D) M57159L<br>(P) VLA106 |     |      | (D) VLA541<br>(P) VLA106 |      | (D) VLA542, (P) VLA106<br>(H) VLA567, VLB522 |      |

## < For Infineon IGBT5 >

| VCES \ IC | 200A                     | 400A    | 1200A               | 1500A             | 1700A/1800A | 2000A |
|-----------|--------------------------|---------|---------------------|-------------------|-------------|-------|
| 650V      | (D) VLA541<br>(P) VLA106 | No IGBT |                     |                   |             |       |
| 1200V     | No IGBT                  |         | (H)VLA597 (H)VLA591 | (H)VLA591, VLB506 |             |       |
| 1700V     | No IGBT                  |         | (H)VLA597 (H)VLA591 | (H)VLA591, VLB506 |             |       |

## ■ イサハヤ独自技術 パワーモジュールゲート並列駆動システム Isahaya Original Design Power Module Parallel Gate Drive System

3.3kV、750AクラスSiC-MOSFETモジュールへの応用例

Example using 3.3kV, 750A class SiC-MOSFET module

◆コネクタを接続するだけでゲート並列接続が完成

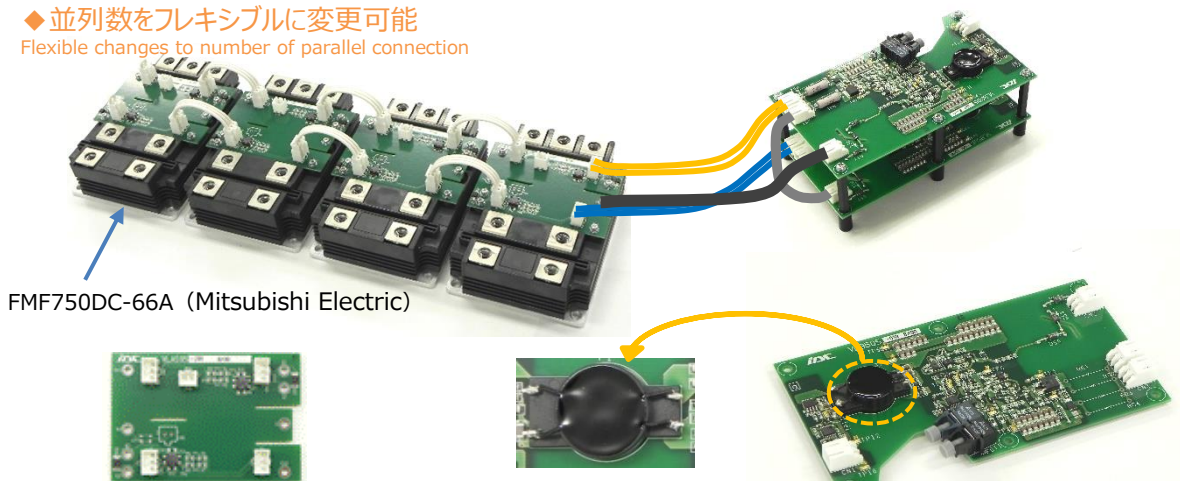
Simple connectors to establish parallel gate connection

◆当社独自のTLAC接続法により並列素子間のゲート、エミッタ配線長バランスを自動調整  
( TLAC → Total Line length Adjustment Circuit )

Isahaya original TLAC connection method enabling auto adjustments of gate and emitter wiring length between parallel elements

◆並列数をフレキシブルに変更可能

Flexible changes to number of parallel connection



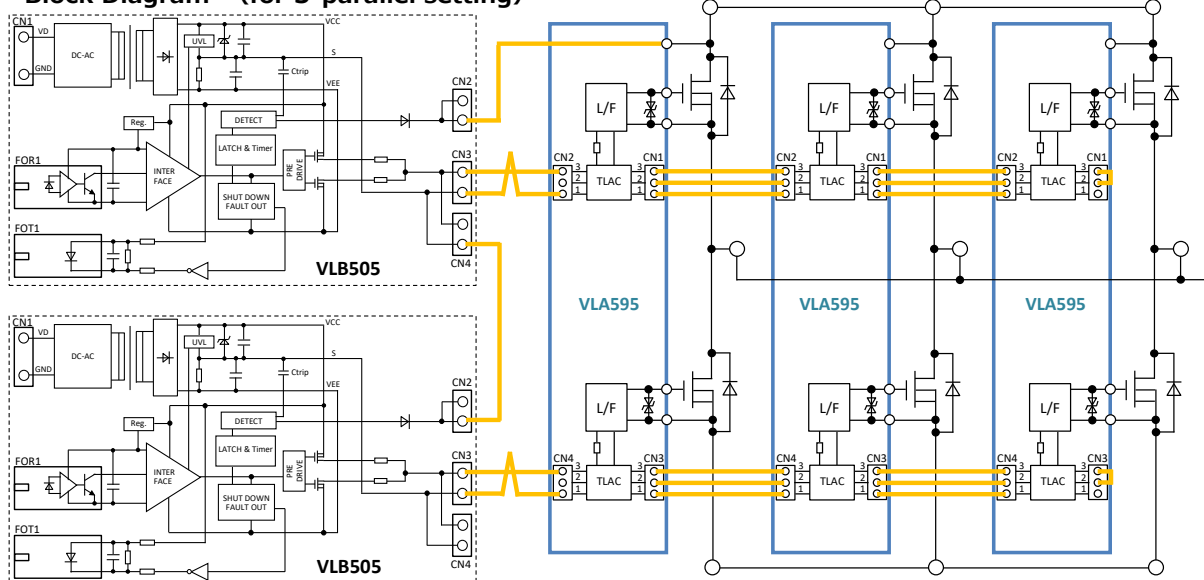
FMF750DC-66A (Mitsubishi Electric)

Adaptor Unit : VLA595-04R

高絶縁耐圧電源トランス内蔵  
絶縁耐圧6kVrms  
Built-in high isolation voltage power  
transformer Isolation voltage 6kVrms

Gate Driver Unit : VLB505-01R

### Block Diagram (for 3-parallel setting)



### 特 徴 Features

- 一次-二次間絶縁耐圧 6000Vrms 1分間保証  
Isolated Primary-Secondary, 6000Vrms, 1min guaranteed
- ゲート駆動用絶縁型電源内蔵  
Built-in isolated power supply for gate driver
- トータルゲート出力ピーク電流 ±36A(max)  
Total gate output peak current ±36A(max)
- 短絡保護回路内蔵  
Built-in short circuit protection
- 光ファイバーインターフェイス対応 (PWM信号入力およびエラー信号出力)  
Optic fibre interface (PWM signal input and error signal output)

### 用 途 Application

高圧インバータ、高圧直流送電システム、風力発電、VVVF 等

Medium voltage inverter, HVDC infrastructure,  
Wind power generator, VVVF, etc.

## ■ 特徴 Feature

一般的な仕様のものから特殊用途まで、幅広く製品を取り揃えております。  
We offer a wide range of products from general specifications to special applications.

☑ **豊富な製品群 ……非絶縁/絶縁, 低電圧～高電圧(最大1500V)**

Wide range of products …… Non-isolated / isolated, low voltage to high voltage (up to 1200 V)

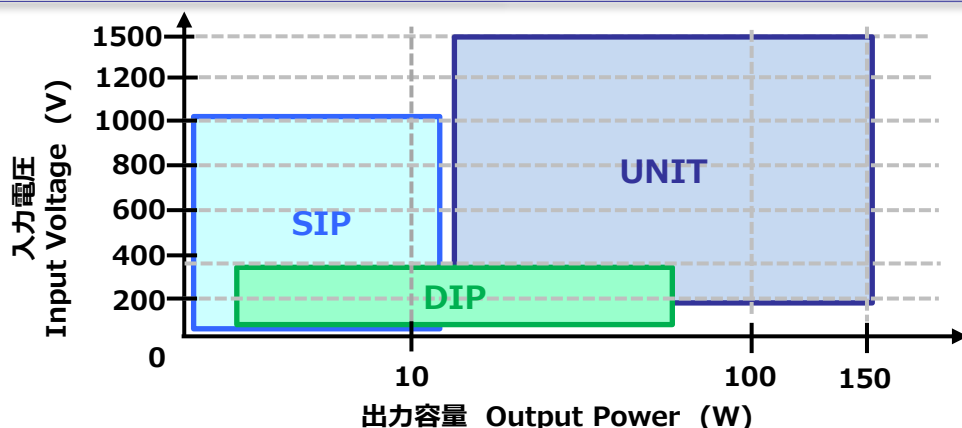
☑ **インバータ周辺用充実 ……ゲート駆動用電源のラインアップ充実**

Lineup for inverter peripherals …… Enhanced lineup of gate drive power supply

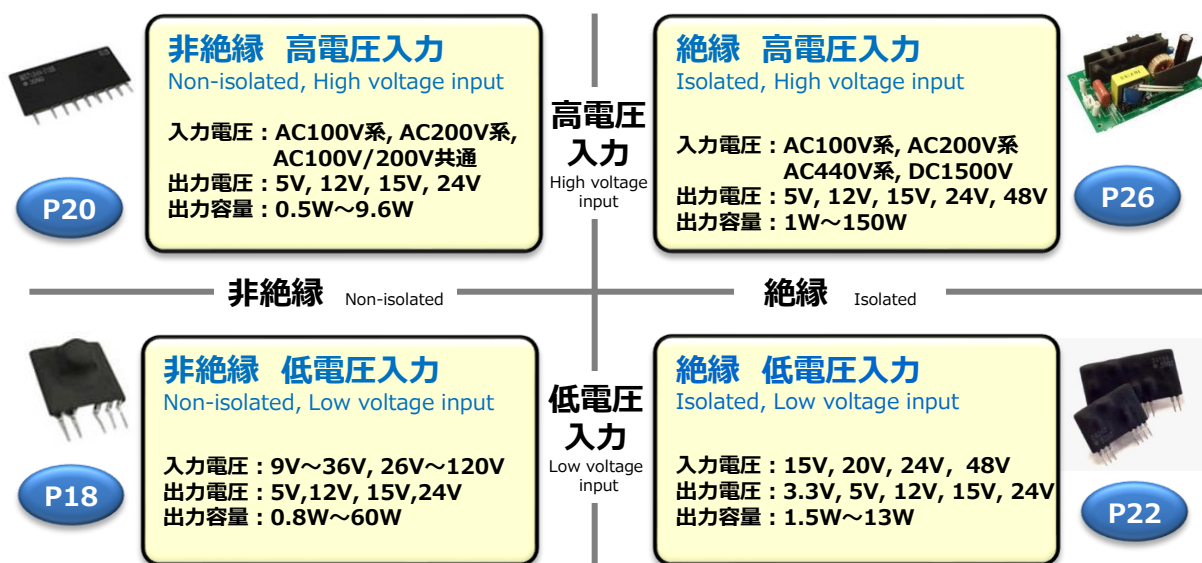
☑ **小型、高絶縁耐圧 ……オンボードタイプで2,500Vrms保証  
4,000Vrms品もラインアップ**

Compact, high insulation/withstand voltage …… 2,500Vrms guaranteed (onboard type)  
4,000Vrms products are offered.

## ■ 対応領域 Cover Area Map



## ■ 製品体系図 Products Matrix



※カスタム対応も致します Customizations available

## ■ 非絶縁型 低電圧入力 Non-isolated low voltage input type

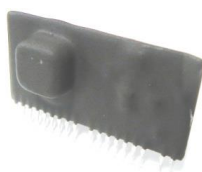
| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |              | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) | 備考<br>Note |
|-----------------|-----------------------|---------------|--------------|--------------------------|-----------------|----------------------------|------------|
| VLA202-12051    | 8~16V                 | 1.5W          | 5V / 300mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-24051    | 18~36V                | 1.5W          | 5V / 300mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-24121    | 18~36V                | 1.2W          | 12V / 100mA  | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-24151    | 18~36V                | 1.2W          | 15V / 80mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-48031    | 30~55V                | 1W            | 3.3V / 303mA | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-48051    | 30~55V                | 1W            | 5V / 200mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-48121    | 30~55V                | 1W            | 12V / 83mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-48151    | 30~55V                | 1W            | 15V / 67mA   | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA202-48242    | 30~55V                | 2.4W          | 24V / 100mA  | 一般制御機器<br>Device Control | SIP             | 19 x 13 x 20               |            |
| VLA203-050R     | 26~120V               | 0.8W          | 5V / 150mA   | 一般制御機器<br>Device Control | SIP             | 40 x 13 x 23               |            |
| VLA203-121R     | 26~120V               | 1.8W          | 12V / 150mA  | 一般制御機器<br>Device Control | SIP             | 40 x 13 x 23               |            |
| VLA203-152R     | 26~120V               | 2.3W          | 15V / 150mA  | 一般制御機器<br>Device Control | SIP             | 40 x 13 x 23               |            |
| VLA203-203R     | 26~120V               | 3W            | 20V / 150mA  | 一般制御機器<br>Device Control | SIP             | 40 x 13 x 23               |            |
| VLA203-243R     | 26~120V               | 3W            | 24V / 125mA  | 一般制御機器<br>Device Control | SIP             | 40 x 13 x 23               |            |
| VLA214-15051    | 9~18V                 | 1W            | -5V / 200mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-15053    | 9~18V                 | 3W            | -5V / 600mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-15121    | 9~18V                 | 1W            | -12V / 83mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-15123    | 9~18V                 | 3W            | -12V / 250mA | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24051    | 18~36V                | 1W            | -5V / 200mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24053    | 18~36V                | 3W            | -5V / 600mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24121    | 18~36V                | 1W            | -12V / 83mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24123    | 18~36V                | 3W            | -12V / 250mA | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24151    | 18~36V                | 1W            | -15V / 67mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-24153    | 18~36V                | 3W            | -15V / 200mA | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-48051    | 30~55V                | 1W            | -5V / 200mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |
| VLA214-48053    | 30~55V                | 3W            | -5V / 600mA  | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |            |

## ■ 非絶縁型 低電圧入力 Non-isolated low voltage input type

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |                                            | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) | 備考<br>Note                                                                                                                                                         |
|-----------------|-----------------------|---------------|--------------------------------------------|--------------------------|-----------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VLA214-48121    | 30~55V                | 1W            | -12V / 83mA                                | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA214-48123    | 30~55V                | 3W            | -12V / 250mA                               | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA214-48151    | 30~55V                | 1W            | -15V / 67mA                                | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA214-48153    | 30~55V                | 3W            | -15V / 200mA                               | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA214-48241    | 30~55V                | 1W            | -24V / 42mA                                | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA214-48243    | 30~55V                | 3W            | -24V / 125mA                               | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA222-24121    | 18~36V                | 1.8W          | 12V / 150mA                                | 一般制御機器<br>Device Control | SIP             | 21 x 11 x 23               |                                                                                                                                                                    |
| VLA222-24131    | 18~36V                | 1.4W          | 13.7V / 100mA                              | 一般制御機器<br>Device Control | SIP             | 21 x 11 x 23               |                                                                                                                                                                    |
| VLA227-24127    | 18~36V                | 7.2W          | 12V / 600mA                                | 一般制御機器<br>Device Control | SIP             | 37 x 8 x 21                |                                                                                                                                                                    |
| VLA222-24123-A  | 18~36V<br>(9~36V)     | MAX<br>3.6W   | 12V / 0.3A<br>(5V / 0.3A)<br>(3.3V / 0.3A) | 一般制御機器<br>Device Control | SIP             | 21 x 11 x 23               | 出力電圧は、外部抵抗にて調節可能。出力5V以下時は、入力電圧範囲9~36V。<br><br>Output voltage is adjustable by outer resistance. When output is under 5V, input range admit wide input range 9~36V. |
| VLA209-24126-A  | 18~36V<br>(9~36V)     | MAX<br>6W     | 12V / 0.5A<br>(5V / 0.5A)<br>(3.3V / 0.5A) | 一般制御機器<br>Device Control | SIP             | 29 x 14 x 30               |                                                                                                                                                                    |
| VLA217-241218-A | 18~36V<br>(9~36V)     | MAX<br>18W    | 12V / 1.5A<br>(5V / 1.5A)<br>(3.3V / 1.5A) | 一般制御機器<br>Device Control | SIP             | 55 x 15 x 30               |                                                                                                                                                                    |
| VLA217-481215   | 30~55V                | MAX<br>15.6W  | 12V / 1.3A<br>(5V / 1.3A)<br>(3.3V / 1.3A) | 一般制御機器<br>Device Control | SIP             | 55 x 15 x 30               | 出力電圧は、外部抵抗にて調節可能。<br><br>Output voltage is adjustable by outer resistance.                                                                                         |
| VLA219-241260   | 18~36V                | 60W           | 12V / 5A                                   | 一般制御機器<br>Device Control | DIP             | 55 x 28 x 30               |                                                                                                                                                                    |



**VLA219-241260**  
(60W)  
イメージ写真  
Image photo



**VLA217-241218**  
(18W)  
イメージ写真  
Image photo



**VLA209-24126**  
(6W)  
イメージ写真  
Image photo



**VLA222-24123**  
(3W)  
イメージ写真  
Image photo

## ■ 非絶縁型 高電圧入力 Non isolation high voltage input type

### ■ AC100V系入力 / For AC100V line

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |                           | 用途<br>Application          | 構造<br>Structure | サイズ Size<br>L x W x H (mm) | 備考<br>Note |
|-----------------|-----------------------|---------------|---------------------------|----------------------------|-----------------|----------------------------|------------|
| M57181N-315F    | 113~180V              | 3W            | 15V / 200mA               | 一般制御機器<br>Device Control   | SIP             | 31 x 9 x 18                |            |
| M57183N-315BR   | 113~187V              | 3.25W         | 15V / 100mA<br>5V / 350mA | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 41 x 12 x 22               |            |
| M57181N-318AF   | 113~180V              | 3W            | 18V / 170mA               | 一般制御機器<br>Device Control   | SIP             | 31 x 9 x 18                |            |
| M57181P-1012R   | ~113~-180V            | 9.6W          | -12V / 800mA              | 一般制御機器<br>Device Control   | SIP             | 35 x 9 x 20                |            |
| M57181P-915R    | ~113~-180V            | 9.3W          | -15V / 620mA              | 一般制御機器<br>Device Control   | SIP             | 35 x 9 x 20                |            |
| M57183N-315AR   | 110~180V              | 3W            | 15V / 100mA<br>5V / 350mA | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 41 x 12 x 22               |            |
| M57183N-316AR   | 110~187V              | 3W            | 16V / 80mA<br>5V / 350mA  | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 41 x 12 x 22               |            |
| M57185N-106R    | 8.8~160V              | 1.1W          | 6.2V / 180mA              | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 30 x 8 x 14                |            |
| VLA417-133R     | 60~130V               | 3.9W          | 13V / 300mA               | 一般制御機器<br>Device Control   | SIP             | 37 x 9 x 22                |            |
| VLA429-123R     | 113~170V              | 3.6W          | 12V / 300mA               | 一般制御機器<br>Device Control   | SIP             | 37 x 9 x 22                |            |
| VLA429-153R     | 113~170V              | 3.6W          | 15V / 240mA               | 一般制御機器<br>Device Control   | SIP             | 37 x 9 x 22                |            |
| VLA429-243R     | 113~170V              | 3.6W          | 24V / 150mA               | 一般制御機器<br>Device Control   | SIP             | 37 x 9 x 22                |            |

### ■ AC200V系入力 / For AC200V line

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |                             | 用途<br>Application          | 構造<br>Structure | サイズ Size<br>L x W x H (mm) | 備考<br>Note               |
|-----------------|-----------------------|---------------|-----------------------------|----------------------------|-----------------|----------------------------|--------------------------|
| M57182N-212F-N  | 220~380V              | 2.4W          | 12V / 200mA                 | 一般制御機器<br>Device Control   | SIP             | 35 x 9 x 20                |                          |
| M57182N-224F-N  | 220~380V              | 2.4W          | 24V / 100mA                 | 一般制御機器<br>Device Control   | SIP             | 35 x 9 x 20                |                          |
| M57182N-315F-N  | 220~380V              | 3W            | 15V / 200mA                 | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 35 x 9 x 20                |                          |
| M57182N-415AF-N | 180~450V              | 4.6W          | 15.5V / 300mA               | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 37 x 9 x 22                |                          |
| M57182N-416R-N  | 180~450V              | 4.8W          | 16V / 300mA                 | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 37 x 9 x 22                |                          |
| M57184N-315AF-N | 180~410V              | 3.0W          | 15V / 100mA<br>5V / 450mA   | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 49 x 12 x 22               | Built-in protection fuse |
| M57184N-512AF-N | 220~410V              | 5.4W          | 12V / 250mA<br>5V / 450mA   | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 52 x 12 x 24               | Built-in protection fuse |
| M57184N-515AF-N | 220~410V              | 5.4W          | 15V / 200mA<br>5V / 450mA   | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 52 x 12 x 24               | Built-in protection fuse |
| M57184N-516AF-N | 220~410V              | 5.4W          | 16.5V / 180mA<br>5V / 450mA | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 52 x 12 x 24               | Built-in protection fuse |
| M57184N-715BF-N | 220~360V              | 6.3W          | 15V / 350mA<br>5V / 200mA   | DIP-IPM制御電源<br>For DIP-IPM | SIP             | 52 x 12 x 24               |                          |

## ■ 非絶縁型 高電圧入力 Non-isolated high voltage input type

### ■ AC100/200V系共通入力 / For AC100/200V line

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |             | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) | 備考<br>Note |
|-----------------|-----------------------|---------------|-------------|--------------------------|-----------------|----------------------------|------------|
| VLA400-204      | 113~380V              | 4W            | 20V / 200mA | 一般制御機器<br>Device Control | SIP             | 37 x 18 x 34               |            |
| VLA417-123R-N   | 113~410V              | 3W            | 12V / 250mA | 一般制御機器<br>Device Control | SIP             | 37 x 9 x 22                |            |
| VLA417-153R-N   |                       |               | 15V / 200mA | 一般制御機器<br>Device Control | SIP             | 37 x 9 x 22                |            |
| VLA417-163R-N   |                       |               | 16V / 190mA | ゲート駆動<br>Gate Drive      | SIP             | 37 x 9 x 22                |            |
| VLA417-243R-N   |                       |               | 24V / 130mA | 一般制御機器<br>Device Control | SIP             | 37 x 9 x 22                |            |
| VLA418-050R-N   | 113~410V              | 0.5W          | 5V / 100mA  | 一般制御機器<br>Device Control | SIP             | 30 x 8 x 18                |            |
| VLA418-120R-N   |                       |               | 12V / 45mA  | 一般制御機器<br>Device Control | SIP             | 30 x 8 x 18                |            |
| VLA418-150R-N   |                       |               | 15V / 35mA  | 一般制御機器<br>Device Control | SIP             | 30 x 8 x 18                |            |
| VLA418-160R-N   |                       |               | 16V / 30mA  | ゲート駆動<br>Gate Drive      | SIP             | 30 x 8 x 18                |            |
| VLA418-240R-N   |                       |               | 24V / 25mA  | 一般制御機器<br>Device Control | SIP             | 30 x 8 x 18                |            |



**VLA418 Series**  
(0.5W)  
イメージ写真  
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**VLA417 Series**  
(3W)  
イメージ写真  
Image photo



**M57184N-715BF**  
(6.3W)  
イメージ写真  
Image photo

**M5718x/VLA417/VLA418シリーズは外付けコイルが必要です。**  
**M5718x/VLA417/VLA418series needs inductor in outside.**

・直流重畳特性の良いものをご使用ください。  
Please use power inductors with good performance of DC superimposition

例) NSL1213C102J : 東京パーツ工業株式会社  
Ex) NSL1213C102J : TOKYO PARTS INDUSTRIAL CO., LTD.

## ■ 絶縁型 低電圧入力 Isolated low voltage input type

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |              | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|--------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA106-15031    | 15V                   | 1.5W          | 3.3V / 480mA | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 33 x 18 x 24               |
| VLA106-15051    |                       |               | 5V / 300mA   |                           |                          |                 |                            |
| VLA106-15151    |                       |               | 15V / 100mA  |                           |                          |                 |                            |
| VLA106-15102    |                       | 2W            | 10V / 200mA  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 33 x 18 x 24               |
| VLA106-15052    |                       |               | 5V / 480mA   |                           |                          |                 |                            |
| VLA106-15122    |                       | 2.4W          | 12V / 200mA  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 33 x 18 x 24               |
| VLA106-15152    |                       |               | 15V / 160mA  |                           |                          |                 |                            |
| VLA106-15242    |                       |               | 24V / 100mA  |                           |                          |                 |                            |
| VLA106-15252    |                       |               | 25V / 100mA  |                           |                          |                 |                            |
| VLA106-15123    |                       | 3.6W          | 12V / 300mA  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 46 x 18 x 27               |
| VLA106-15054    |                       | 4.5W          | 5V / 900mA   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 46 x 18 x 27               |
| VLA106-15124    |                       |               | 12V / 380mA  |                           |                          |                 |                            |
| VLA106-15154    |                       |               | 15V / 300mA  |                           |                          |                 |                            |
| VLA106-15244    |                       |               | 24V / 190mA  |                           |                          |                 |                            |
| VLA106-24031    | 24V                   | 1.5W          | 3.3V / 480mA | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 33 x 18 x 24               |
| VLA106-24051    |                       |               | 5V / 300mA   |                           |                          |                 |                            |
| VLA106-24151    |                       |               | 15V / 100mA  |                           |                          |                 |                            |
| VLA106-24052    |                       | 2.4W          | 5V / 480mA   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 33 x 18 x 24               |
| VLA106-24122    |                       |               | 12V / 200mA  |                           |                          |                 |                            |
| VLA106-24152    |                       |               | 15V / 160mA  |                           |                          |                 |                            |
| VLA106-24242    |                       |               | 24V / 100mA  |                           |                          |                 |                            |
| VLA106-24123    |                       | 3.6W          | 12V / 300mA  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 46 x 18 x 27               |
| VLA106-24054    |                       | 4.5W          | 5V / 900mA   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 46 x 18 x 27               |
| VLA106-24124    |                       |               | 12V / 380mA  |                           |                          |                 |                            |
| VLA106-24154    |                       |               | 15V / 300mA  |                           |                          |                 |                            |
| VLA106-24244    |                       |               | 24V / 190mA  |                           |                          |                 |                            |

# ■ 絶縁型 低電圧入力 Isolated low voltage input type

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |               | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|---------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA135-15034    | 15V                   | 4W            | 3.3V / 1212mA | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-15054    |                       |               | 5V / 800mA    |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-15124    |                       |               | 12V / 333mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-15154    |                       |               | 15V / 267mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-15244    |                       |               | 24V / 167mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-150510   |                       | 10W           | 5V / 2000mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-151210   |                       |               | 12V / 833mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-151510   |                       |               | 15V / 667mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-152410   |                       |               | 24V / 417mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-152413   |                       | 13W           | 24V / 542mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-24034    | 24V                   | 4W            | 3.3V / 1212mA | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-24054    |                       |               | 5V / 800mA    |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-24124    |                       |               | 12V / 333mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-24154    |                       |               | 15V / 267mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-24244    |                       |               | 24V / 167mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-240510   |                       | 10W           | 5V / 2000mA   | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-241210   |                       |               | 12V / 833mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-241510   |                       |               | 15V / 667mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-242410   |                       |               | 24V / 417mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-48034    | 48V                   | 4W            | 3.3V / 1212mA | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-48054    |                       |               | 5V / 800mA    |                           |                          |                 |                            |
| VLA135-48124    |                       |               | 12V / 333mA   |                           |                          |                 |                            |
| VLA135-48154    |                       |               | 15V / 267mA   |                           |                          |                 |                            |
| VLA135-48244    |                       |               | 24V / 167mA   |                           |                          |                 |                            |
| VLA135-481210   |                       | 10W           | 12V / 833mA   | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135-481510   |                       |               | 15V / 667mA   |                           |                          |                 |                            |
| VLA135-482410   |                       |               | 24V / 417mA   |                           |                          |                 |                            |

## ■ 絶縁型 低電圧入力 Isolated low voltage input type

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |               | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|---------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA135S-15034   | 15V                   | 4W            | 3.3V / 1212mA | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-15054   |                       |               | 5V / 800mA    |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-15124   |                       |               | 12V / 333mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-15154   |                       |               | 15V / 267mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-15244   |                       |               | 24V / 167mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-24034   | 24V                   | 4W            | 3.3V / 1212mA | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-24054   |                       |               | 5V / 800mA    |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-24124   |                       |               | 12V / 333mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-24154   |                       |               | 15V / 267mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-24244   |                       |               | 24V / 167mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-48154   | 48V                   | 4W            | 15V / 267mA   | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA135S-48244   |                       |               | 24V / 167mA   |                           | 一般制御機器<br>Device Control | SIP             | 53 x 19 x 34               |
| VLA137-15032    | 15V                   | 2W            | 3.3V / 600mA  | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-15052    |                       |               | 5V / 400mA    |                           | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-24032    | 24V                   | 2W            | 3.3V / 600mA  | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-24052    |                       |               | 5V / 400mA    |                           | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-24126    |                       | 6W            | 12V / 500mA   | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-24156    |                       |               | 15V / 400mA   |                           | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |
| VLA137-24246    |                       |               | 24V / 250mA   |                           | 一般制御機器<br>Device Control | SIP             | 47 x 18 x 28               |

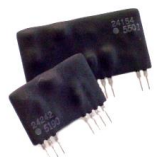
※VLA135Sシリーズ:ON/OFF機能付

※VLA135Sseries:with ON/OFF function

## ■ 絶縁型 低電圧入力 Isolated low voltage input type

| 形名<br>Type Name  | 入力電圧<br>Input Voltage | 出力<br>Outputs                                    | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|------------------|-----------------------|--------------------------------------------------|---------------------------|--------------------------|-----------------|----------------------------|
| M57140-01F-N     | 20V                   | 15V / 30mA (x3)<br>15V / 100mA (x1)              | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | DIP             | 52 x 33 x 18               |
| M57140-04F-N     |                       | 12V / 30mA (x3)<br>12V / 100mA (x1)              |                           |                          |                 |                            |
| M57140-06F-N     |                       | 18.5V / 30mA (x3)<br>18.5V / 100mA (x1)          |                           |                          |                 |                            |
| M57140-07F-N     |                       | 21.5V / 30mA (x3)<br>21.5V / 100mA (x1)          |                           |                          |                 |                            |
| VLA107-644R-N    | 24V                   | 15V / 120mA (x4)                                 | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 87 x 14 x 39               |
| VLA107-655R-N    | 20V                   | 15V / 120mA (x4)                                 |                           |                          |                 |                            |
| VLA107-666R-N    | 15V                   | 12V / 120mA (x4)                                 |                           |                          |                 |                            |
| VLA107-677R-N    | 15V                   | 15V / 120mA (x4)                                 |                           |                          |                 |                            |
| VLA124-1500GTR   | 15V                   | 15.8V, -11.6V / 100mA                            | 4,000Vrms<br>1min         | ゲート駆動<br>Gate Drive      | SIP             | 42 x 18 x 28               |
| VLA124-15182R    | 15V                   | 18V / 130mA                                      | 4,000Vrms<br>1min         | ゲート駆動<br>Gate Drive      | SIP             | 42 x 18 x 28               |
| VLA124-24151R    | 24V                   | 15V / 100mA                                      | 4,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 42 x 18 x 28               |
| VLA128-24153QR-N | 24V                   | 15V / 50mA (x3)<br>15V / 100mA (x1)              | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 71 x 18 x 32               |
| VLA129-2400GTR-N | 24V                   | 15.8V, -8V / 550mA                               | 4,000Vrms<br>1min         | ゲート駆動<br>Gate Drive      | SIP             | 73 x 17 x 40               |
| VLA130-24205QR   | 24V                   | 16.8V, -2.5V / 120mA<br>16.8V, -2.5V / 50mA (x3) | 2,500Vrms<br>1min         | ゲート駆動<br>Gate Drive      | SIP             | 86 x 18 x 40               |
| VLA152-24151     | 24V                   | 15V / 100mA                                      | 6,000Vrms<br>1min         | ゲート駆動<br>Gate Drive      | SIP             | 58 x 13 x 33               |

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## ■ 絶縁型 高電圧入力 Isolated high voltage input type

### ■ AC100V系入力 / For AC100V line

| 形名<br>Type Name | 入力電圧<br>Input DC Voltage | 出力<br>Outputs |             | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>H x W x D (mm) |
|-----------------|--------------------------|---------------|-------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA301-051R     | 80~220V                  | 1W            | 5V / 200mA  | 2,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 37 x 17 x 23               |
| VLA301-121R     |                          |               | 12V / 83mA  |                           |                          |                 |                            |
| VLA301-151R     |                          |               | 15V / 67mA  |                           |                          |                 |                            |
| VLA301-241R     |                          |               | 24V / 42mA  |                           |                          |                 |                            |
| VLA301-052R     |                          | 2W            | 5V / 400mA  |                           |                          |                 |                            |
| VLA301-122R     |                          | 2.4W          | 12V / 200mA |                           |                          |                 |                            |
| VLA301-153R     |                          | 3W            | 15V / 200mA |                           |                          |                 |                            |
| VLA301-243R     | 63~156V                  | 3.1W          | 24V / 130mA |                           |                          |                 |                            |

### ■ AC200V系入力 / For AC200V line

| 形名<br>Type Name | 入力電圧<br>Input DC Voltage | 出力<br>Outputs |                                                                            | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|--------------------------|---------------|----------------------------------------------------------------------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA303A-01R     | 140~380V                 | 10W           | 15V / 50mA (x3)<br>15V / 150mA (x1)<br>12V / 400mA (x1)<br>5V / 300mA (x1) | 1,500Vrms<br>1min         | IPM制御<br>IPM Control     | DIP             | 82 x 51 x 32               |
| VLA307-01R      | 220~380V                 | 12W           | 15V / 300mA<br>-15V / 100mA<br>12V / 400mA<br>5V / 300mA                   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 76 x 22 x 45               |
| VLA307-02R      | 220~380V                 | 11W           | 24V / 400mA<br>8V / 200mA                                                  | 1,500Vrms<br>1min         |                          |                 |                            |
| VLA307-03R      | 220~380V                 | 14W           | 24V / 480mA<br>12V / 160mA<br>5V / 150mA                                   | 1,500Vrms<br>1min         |                          |                 |                            |
| VLA308-01AR     | 220~450V                 | 7.8W          | 12V / 650mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 19 x 42               |
| VLA308-055R     | 90~600V                  | 5W            | 5V / 1000mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 13 x 42               |
| VLA308-125R     | 110~380V                 | 5W            | 12V / 420mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 13 x 42               |
| VLA308-155R     | 110~380V                 | 5W            | 15V / 340mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 13 x 42               |
| VLA308-245R     | 110~380V                 | 5W            | 24V / 210mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 13 x 42               |
| VLA308-245R     | 110~380V                 | 5W            | 24V / 210mA                                                                | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 56 x 13 x 42               |
| VLA339-155R     | 250~340V                 | 5.5W          | 15V / 200mA (非絶縁)<br>5V / 300mA (非絶縁)<br>5V / 200mA                        | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 63 x 21 x 28               |
| VLA339-185R     |                          | 5.2W          | 18V / 150mA (非絶縁)<br>5V / 300mA (非絶縁)<br>5V / 200mA                        | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 63 x 21 x 28               |
| VLA339-245R     |                          | 5.38W         | 24V / 120mA (非絶縁)<br>5V / 300mA (非絶縁)<br>5V / 200mA                        | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 63 x 21 x 28               |

## ■ 絶縁型 高電圧入力 Isolated high voltage input type

### ■ AC440V系入力 / For AC440V line

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |                                          | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|------------------------------------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA309-156R     | 400~800V              | 8W            | 15V / 550mA<br>-15V / 50mA<br>5V / 500mA | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 91 x 20 x 44               |
| VLA309-245R     |                       | 8W            | 24V / 210mA<br>-15V / 50mA<br>5V / 500mA |                           |                          |                 |                            |
| VLA309-1510R    |                       | 10W           | 15V / 670mA                              | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 91 x 20 x 44               |
| VLA309-2410R    |                       | 10W           | 24V / 420mA                              |                           |                          |                 |                            |

### ■ AC200/440V系共通入力 / For AC200/440V line

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |             | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|-------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA312L-1525A   | 200~850V              | 25W           | 15V / 1.7A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 90 x 55 x 49               |
| VLA312L-2425A   |                       |               | 24V / 1.05A |                           |                          |                 |                            |
| VLA313L-1550A   |                       | 50W           | 15V / 3.4A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 115 x 70 x 40              |
| VLA313L-2450A   |                       |               | 24V / 2.1A  |                           |                          |                 |                            |
| VLA315L-15100A  |                       | 100W          | 15V / 6.7A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 140 x 80 x 49              |
| VLA315L-24100A  |                       |               | 24V / 4.2A  |                           |                          |                 |                            |
| VLA332L-15150A  |                       | 150W          | 15V / 10A   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |
| VLA332L-24150A  |                       |               | 24V / 6.25A | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |

## ■ 絶縁型 高電圧入力 Isolated high voltage input type

### ■ ワイド入力 / Wide input

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |             | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|-------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA331-051R     | 200~1000V             | 1W            | 5V / 200mA  | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | T.B.D.                     |
| VLA331-123R     |                       | 3W            | 12V / 250mA | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | SIP             | 76 x 20 x 43               |
| VLA331-153R     |                       |               | 15V / 200mA |                           |                          |                 |                            |
| VLA331-243R     |                       |               | 24V / 125mA |                           |                          |                 |                            |
| VLA312H-1525A   | 400~1000V             | 25W           | 15V / 1.7A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 90 x 55 x 49               |
| VLA312H-2425A   |                       |               | 24V / 1.05A |                           |                          |                 |                            |
| VLA313H-1550A   |                       | 50W           | 15V / 3.4A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 115 x 70 x 40              |
| VLA313H-2450A   |                       |               | 24V / 2.1A  |                           |                          |                 |                            |
| VLA315H-15100A  |                       | 100W          | 15V / 6.7A  | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 140 x 80 x 49              |
| VLA315H-24100A  |                       |               | 24V / 4.2A  |                           |                          |                 |                            |
| VLA332H-15150A  |                       | 150W          | 15V / 10A   | 2,500Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |
| VLA332H-24150A  |                       |               | 24V/6.3A    |                           |                          |                 |                            |

## ■ 絶縁型 高電圧入力 Isolated high voltage input type

### ■ ワイド入力 / Wide input

| 形名<br>Type Name | 入力電圧<br>Input Voltage | 出力<br>Outputs |              | 絶縁耐圧<br>Isolation Voltage | 用途<br>Application        | 構造<br>Structure | サイズ Size<br>L x W x H (mm) |
|-----------------|-----------------------|---------------|--------------|---------------------------|--------------------------|-----------------|----------------------------|
| VLA338-15150    | 400~1200V             | 150W          | 15V / 10A    | 3,000Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |
| VLA338-24150    |                       |               | 24V / 6.25A  |                           | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |
| VLA338-48150    |                       |               | 48V / 3.125A |                           | 一般制御機器<br>Device Control | UNIT            | 160 x 75 x 39              |
| VLA351-24150    | 600~1500V             | 150W          | 24V / 6.3A   | 3,600Vrms<br>1min         | 一般制御機器<br>Device Control | UNIT            | 195 x 90 x 63              |
| VLA352-280150   |                       |               | 280V / 540mA |                           | 一般制御機器<br>Device Control | UNIT            | TBD                        |

New

UD



**VLA312x Series**  
(25W)  
イメージ写真  
Image photo



**VLA313x Series**  
(50W)  
イメージ写真  
Image photo



**VLA315x Series**  
(100W)  
イメージ写真  
Image photo



**VLA332x Series**  
(150W)  
イメージ写真  
Image photo

## ■ 開発区分

New

サンプル対応中 Samples available.

UD

開発中 サンプルについてはお問い合わせください

Under development. Please ask for sample availability.

## ■ 特徴 Feature

パワーマネジメントに関する技術（AC/DCコンバータ、DC/DCコンバータ、インバータ、双方向DC/DCコンバータ、PFC（力率改善）、充電制御、パワー素子駆動、デジタル制御など）を駆使して、お客様のご要望に最適な「機器組み込み型電源」を提案いたします。

By applying technologies related to power management (AC/DC converters, DC/DC converters, inverters, bidirectional DC/DC converters, PFC <Power Factor Correction>, charge control, power element drive, digital control, and etc. ), we propose "built-in type power supply" that the best suit for customer's requirements.

☑ **小型・軽量 … ハイブリッドICをキーパーツにして小型、軽量化を実現**

Compact and lightweight … Achieving minimized design by applying Hybrid IC

☑ **高効率 … ソフトスイッチング方式により効率95%以上も可能**

High efficiency … Soft-switching technology achieves an efficiency of 95% or higher

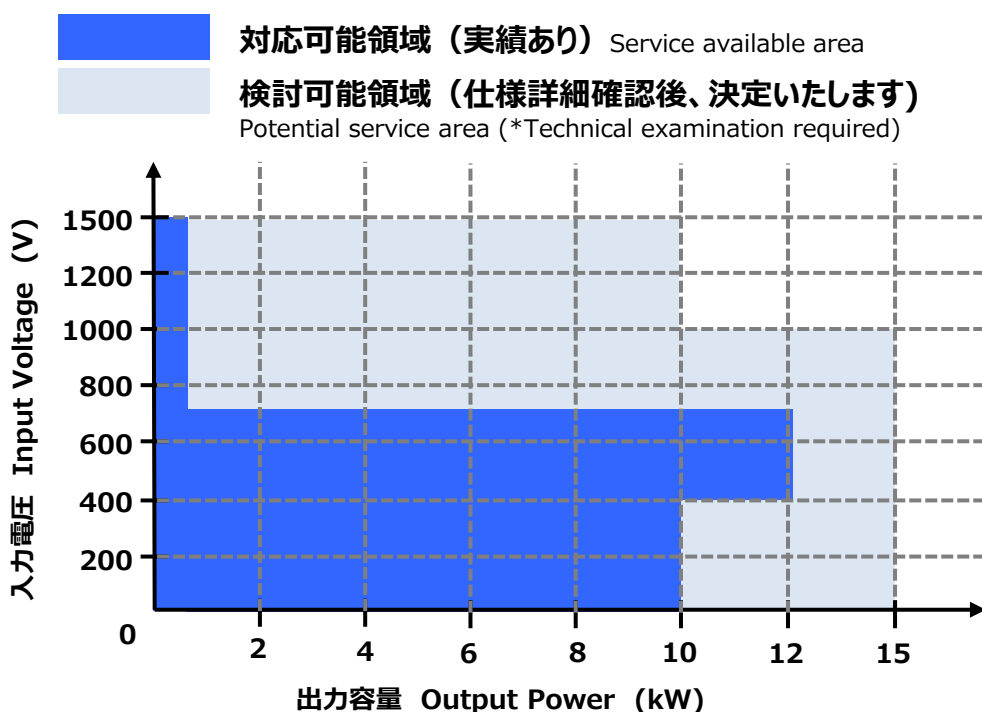
☑ **高機能 … デジタル制御を採用し、リモート制御、モニタリングが可能**

High functionality … Digital control enables remote control and operation monitoring

☑ **複合化 … DC/DCコンバータだけでなく、PFC(力率改善回路)、インバータ、機器の制御、I/O回路の搭載も可能。**

Integration … In addition to DC / DC converter, PFC (Power Factor Correction circuit), inverter, device control circuit, I/O circuit can be embedded.

## ■ 対応領域 Cover Area Map



## ■ 技術要素 Technical Elements

### ☑ 高効率 High efficiency

位相シフトフルブリッジ回路やLLC回路により、ゼロ電圧スイッチング（ZVS）動作をすることで、効率95%以上を実現。

Zero-voltage switching (ZVS) operation with phase-shifted full-bridge (PSFB) converter and LLC converter can achieve efficiencies of 95% or higher.

### ☑ 小型・軽量 Compact and light weight

ハイブリッドICを使用することで高密度実装が可能。小型化、軽量化を実現します。

A high density packaging is possible to use a hybrid IC. It's miniaturized and weight saving is achieved.

### ☑ 高電圧 High voltage

入力電圧はDC1500Vまで対応できます。

Input voltage can correspond to DC1500V.

### ☑ PFC(力率改善) Power factor correction

皮相電力を抑え、力率を上げると共に、高調波電流規制対応(IEC61000-3-2適合)。三相入力にも対応可能です。

The apparent power is suppressed and the power factor is raised as well as, harmonic current regulation correspondence (IEC61000-3-2 fitness). 3-phase input is also possible.

### ☑ インバータ Inverter

誘導モータ(IM)、永久磁石同期モータ(PMSM)の駆動用インバータ(サーボアンプ)や、交流電源の開発・製作が可能です。

We can develop and manufacture inverters (servo amplifiers) for driving induction motors (IM) and permanent magnet synchronous motors (PMSM), as well as AC power supplies.

### ☑ デジタル制御 Digital control

効率や応答性の向上のために、制御を複雑にプログラミングすることが可能な他、通信を介して状態のモニタリングや協調制御をおこなう事が可能です。

Able to do the monitoring and the cooperative control which are in the state through other communication possible to program control complicatedly for improvement of the efficiency and the response.

### ☑ 充電制御 Charge control

定電流、定電圧、充電多段階制御、充放電制御（双方向DC/DCコンバータ）など、デジタル制御との組み合わせで様々な充電方式に対応いたします。

Constant current, constant voltage, charge multistage control and battery charging and discharging control (bidirectional DC/DC converter) will answer to various charging method with combination with a digital control.

## ■ 評価用製品 Evaluation product

**NEW**

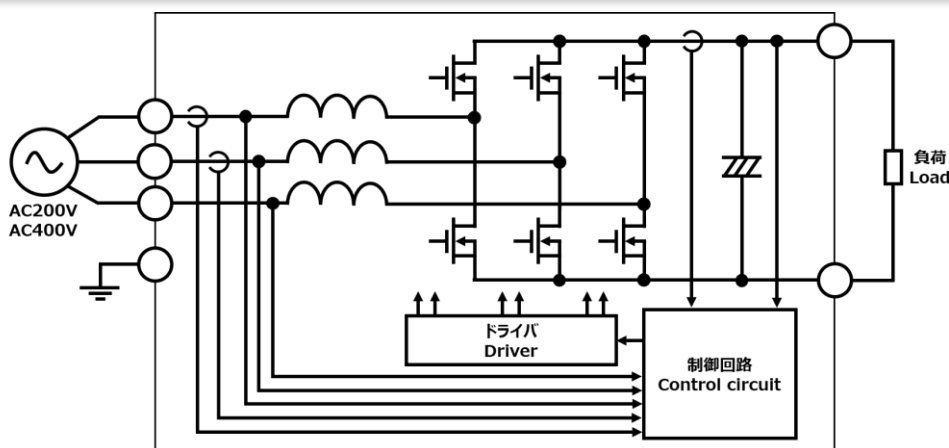
三相PFC (AC/DC)  
3-phase PFC (AC/DC)

お客様の評価用として貸し出し可能です。  
Sample is available to lend out for customer evaluation.

## ■ 特徴 Feature

- ☑ 高力率・高効率 High power factor and high efficiency
- ☑ 高調波電流規制に対応 Harmonic current regulation correspondence
- ☑ カスタム対応可能 Customization available

## ■ 仕様 Specification



|                    |                                                                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 機能<br>Function     | <input checked="" type="checkbox"/> 力率改善 (PFC)<br>Power Factor Controller<br><input type="checkbox"/> 絶縁電源 (AC/DC)<br>Isolated Power Supply<br><input type="checkbox"/> インバータ Inverter |
| 入力<br>Input        | ① 三相170~264Vrms, 50/60Hz<br>3-phase 170~264Vrms, 50/60Hz<br>② 三相340~528Vrms, 50/60Hz<br>3-phase 340~528Vrms, 50/60Hz                                                                   |
| 出力<br>Output       | ① DC380V, 10kW<br>② DC760V, 10kW                                                                                                                                                       |
| 力率<br>Power Factor | 0.99 (最大負荷時 at max load)                                                                                                                                                               |
| 効率<br>Efficiency   | 96% typ. (最大負荷時 at max load)                                                                                                                                                           |
| 冷却<br>Cooling      | 強制空冷 (ファン内蔵)<br>Air cooling (built-in fan)                                                                                                                                             |
| サイズ<br>Size        | L×W×H(mm)= ① 330×320×185<br>② 330×320×185                                                                                                                                              |
| 絶縁耐圧<br>Isolation  | ① 入力-F G間 Input-FG 1500Vrms<br>② 入力-F G間 Input-FG 2500Vrms                                                                                                                             |
| 準拠規格<br>Rating     | ・IEC62368-1 ・IEC61000-3-2 ・IEC61000-3-12                                                                                                                                               |



AC200V入力タイプ  
AC200V input type

## ■ 評価用製品 Evaluation product

**NEW**

### 高電圧入力電源 (DC/DC)

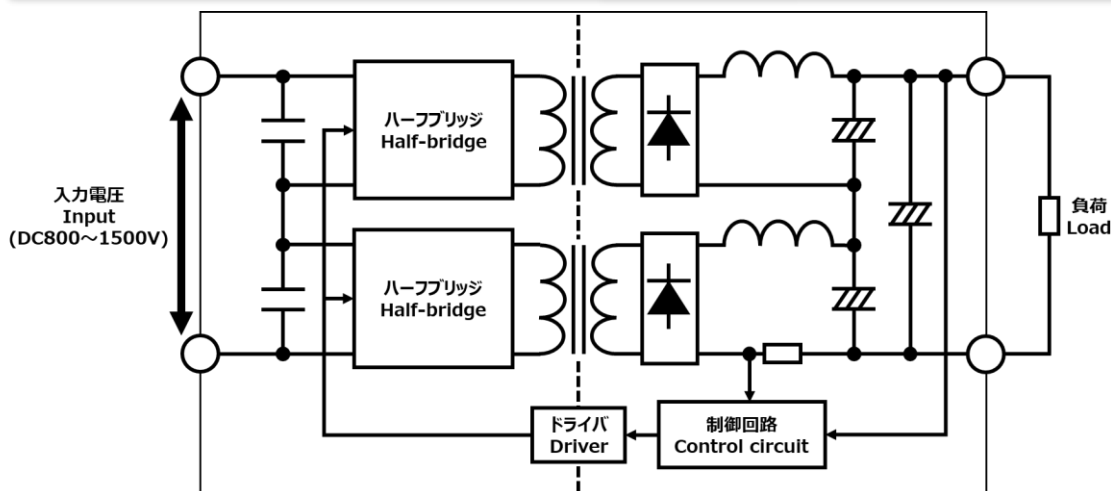
High-Voltage Input Power Supply (DC/DC)

お客様の評価用として貸し出し可能です。  
Sample is available to lend out for customer evaluation.

## ■ 特徴 Feature

- ☑ DC800～1500Vのワイド入力に対応 Wide range of input voltages from 800 to 1500 VDC
- ☑ 小型・高密度 Compact size, high part density
- ☑ カスタム対応可能 Customization available

## ■ 仕様 Specification



|                   |                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 機能<br>Function    | <input type="checkbox"/> 力率改善 (PFC)<br>Power Factor Controller<br><input checked="" type="checkbox"/> 絶縁電源 (DC/DC)<br>Isolated Power Supply<br><input type="checkbox"/> インバータ Inverter |
| 入力<br>Input       | DC800～1500V                                                                                                                                                                            |
| 出力<br>Output      | ① DC280V, 200W<br>② DC24V, 200W                                                                                                                                                        |
| 効率<br>Efficiency  | ① 89% typ. (最大負荷時 at max load)<br>② 88% typ. (最大負荷時 at max load)                                                                                                                       |
| 冷却<br>Cooling     | 自然空冷<br>Convection Cooling                                                                                                                                                             |
| サイズ<br>Size       | L×W×H(mm)=<br>① 145×175×70<br>② 145×180×71                                                                                                                                             |
| 絶縁耐圧<br>Isolation | 入力-出力間 Input-Output 4400Vrms                                                                                                                                                           |
| 準拠規格<br>Rating    | IEC62109-1                                                                                                                                                                             |



※この成果は、国立研究開発法人新エネルギー・産業技術総合開発機構(NEDO)の委託業務(JPNP14004)の結果得られたものです。

# カスタム電源 Custom Power Supply

## ■ 評価用製品 Evaluation product

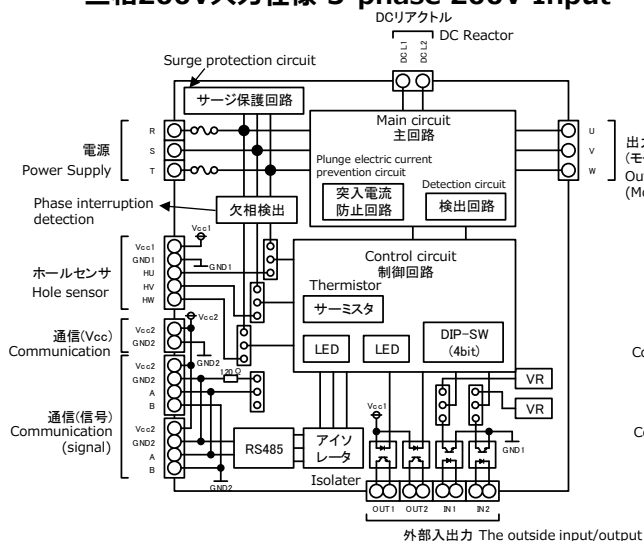
モータ制御用インバータユニット IMD-S シリーズ  
Inverter unit for motor control IMD-S series

## ■ 特徴 Feature

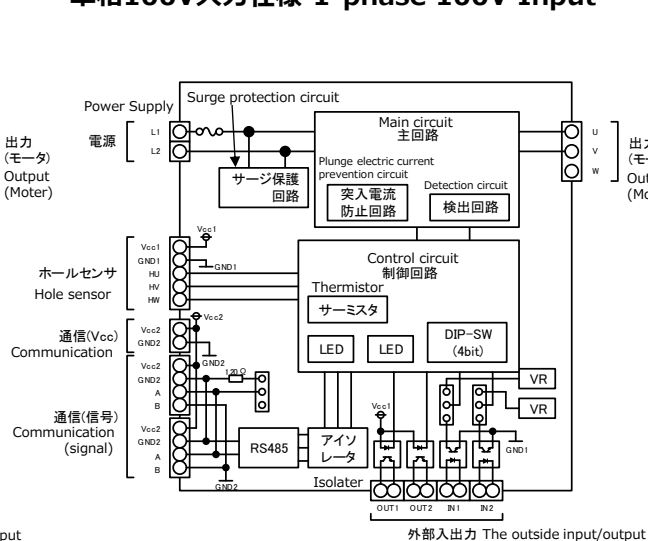
- ☑ 制御ソフトウェアをカスタム対応 Custom control software
- ☑ 単相100V/三相200Vそれぞれの入力仕様に対応  
1-phase 100V or 3-phase 200V input versions available
- ☑ RS-485通信I/F搭載（通信内容はカスタム対応可能）  
RS-485 I/F built-in (communication can be customized)
- ☑ コンプレッサ向けに最適なセンサレスベクトル制御の提案可能  
Optimal sensorless vector control for compressor
- ☑ IMD-Sシリーズをベースに、サイズ・スペックの最適化を行ったカスタムインバータへの展開が可能  
Based on IMD-S series, size and specs are optimized for custom inverter

## ■ 仕様 Specification

・三相200V入力仕様 3-phase 200V Input



・単相100V入力仕様 1-phase 100V Input



|                       |                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 機能<br>Function        | <input type="checkbox"/> 力率改善 (P F C)<br>Power Factor Controller<br><input type="checkbox"/> 絶縁電源 (A C / D C)<br>Isolated Power Supply<br><input checked="" type="checkbox"/> インバータ Inverter |
| 入力<br>Input           | 単相 1-phase 100Vrms, 50/60Hz<br>三相 3-phase 200Vrms, 50/60Hz                                                                                                                                   |
| 出力<br>Output          | 単相100V入力仕様<br>1-phase 100V Input : 0.75kW<br>三相200V入力仕様<br>3-phase 200V Input : 1.5kW                                                                                                        |
| サイズ<br>Size           | L×W×H(mm)=150x200x58                                                                                                                                                                         |
| 絶縁<br>耐圧<br>Isolation | 1次-2次間<br>Primary-Secondary 1500Vrms<br>1次-F G間<br>Primary-FG 1500Vrms                                                                                                                       |



## 製品事例 Product examples

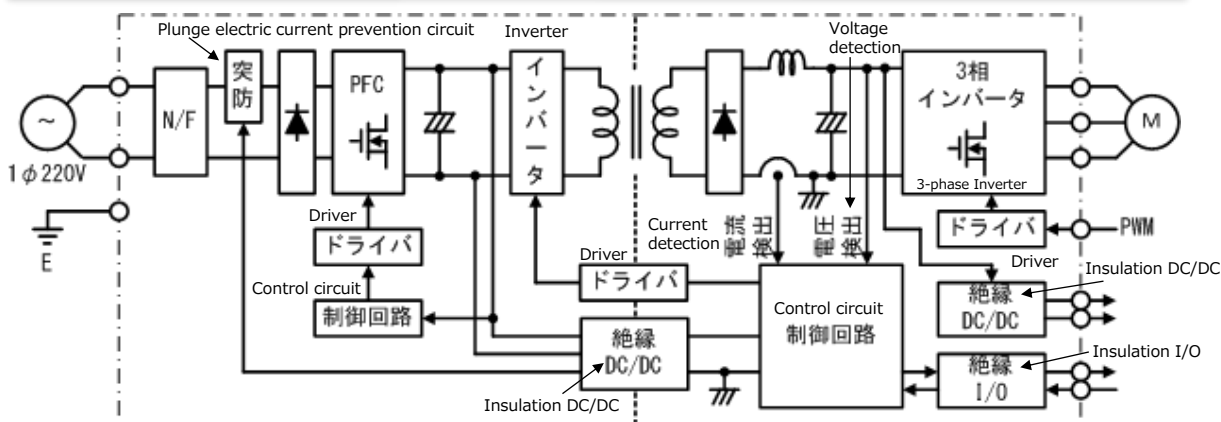
産業用真空ポンプ システム電源  
Industrial vacuum pump system power supply



## 特徴 Feature

- ☑ PFC 臨界モード昇圧 30kHz PFC critical mode boost 30kHz
- ☑ 絶縁電源 ハーフブリッジ 60kHz Isolated power supply half bridge 60kHz
- ☑ インバータ MOS-FET 50kHz Inverter MOS-FET 50kHz
- ☑ 制御回路Hic化による高密度/小型化を実現 Compact size due to control circuit Hic

## 仕様 Specification



|                   |                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 機能<br>Function    | <ul style="list-style-type: none"> <li>☑ 力率改善 ( P F C ) Power Factor Controller (PFC)</li> <li>☑ 絶縁電源 ( D C / D C ) Isolated Power Supply (DC/DC)</li> <li>☑ インバータ Inverter</li> </ul> |
| 入力 Input          | 単相85~264Vrms, 50/60Hz 1-phase 85~264Vrms, 50/60Hz                                                                                                                                      |
| 出力<br>Output      | PFC = 380V , DC/DC = 110V<br>インバータInverter = 1.1kW<br>外部制御用電源=3出力 合計80W<br>External control power supply: 3 outputs Total 80W                                                          |
| 力率 Power Factor   | 0.95~0.99 (最大負荷時 at max load)                                                                                                                                                          |
| 効率 Efficiency     | 85% (最大負荷時 at max load)                                                                                                                                                                |
| 冷却 Cooling        | 強制空冷 Air cooling                                                                                                                                                                       |
| サイズ<br>Size       | L×W×H (mm) =370×190×100                                                                                                                                                                |
| 絶縁耐圧<br>Isolation | 入力ー出力間 2500Vrms Input-Output 2500Vrms<br>入力ー F G 間 1500Vrms Input-FG 1500Vrms                                                                                                          |
| 準拠規格<br>Rating    | ・UL60950 ・IEC60950-1(EN60950-1) ・EN55022 Class-A<br>・EN61326-1,Class-A ・EN55011,Class-A ・IEC61000-3-2                                                                                  |

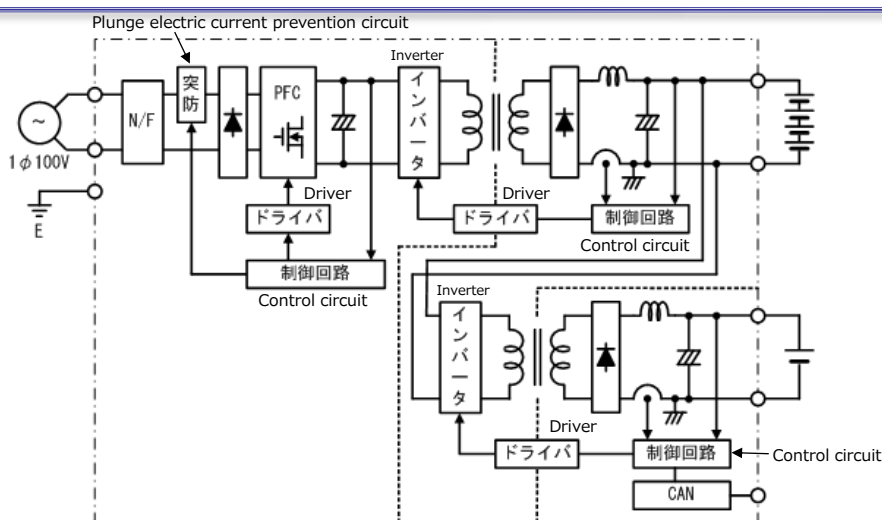
## 製品事例 Product examples

小型電気自動車用 バッテリ充電器 Battery charger for small electric vehicles

## 特徴 Feature

- ☑ デジタル制御 Digital control
- ☑ 駆動バッテリーと補機バッテリー同時充電（2出力, CC/CV充電）  
Simultaneous charging for driving and auxiliary batteries  
(2 outputs, CC/CV charging)
- ☑ CAN通信機能搭載 Built-in CAN communication
- ☑ 第5回「ものづくり日本大賞」九州経済産業局長賞 受賞  
Winning design of 5<sup>th</sup> Kyushu METI Japan Craftmanship Award

## 仕様 Specification



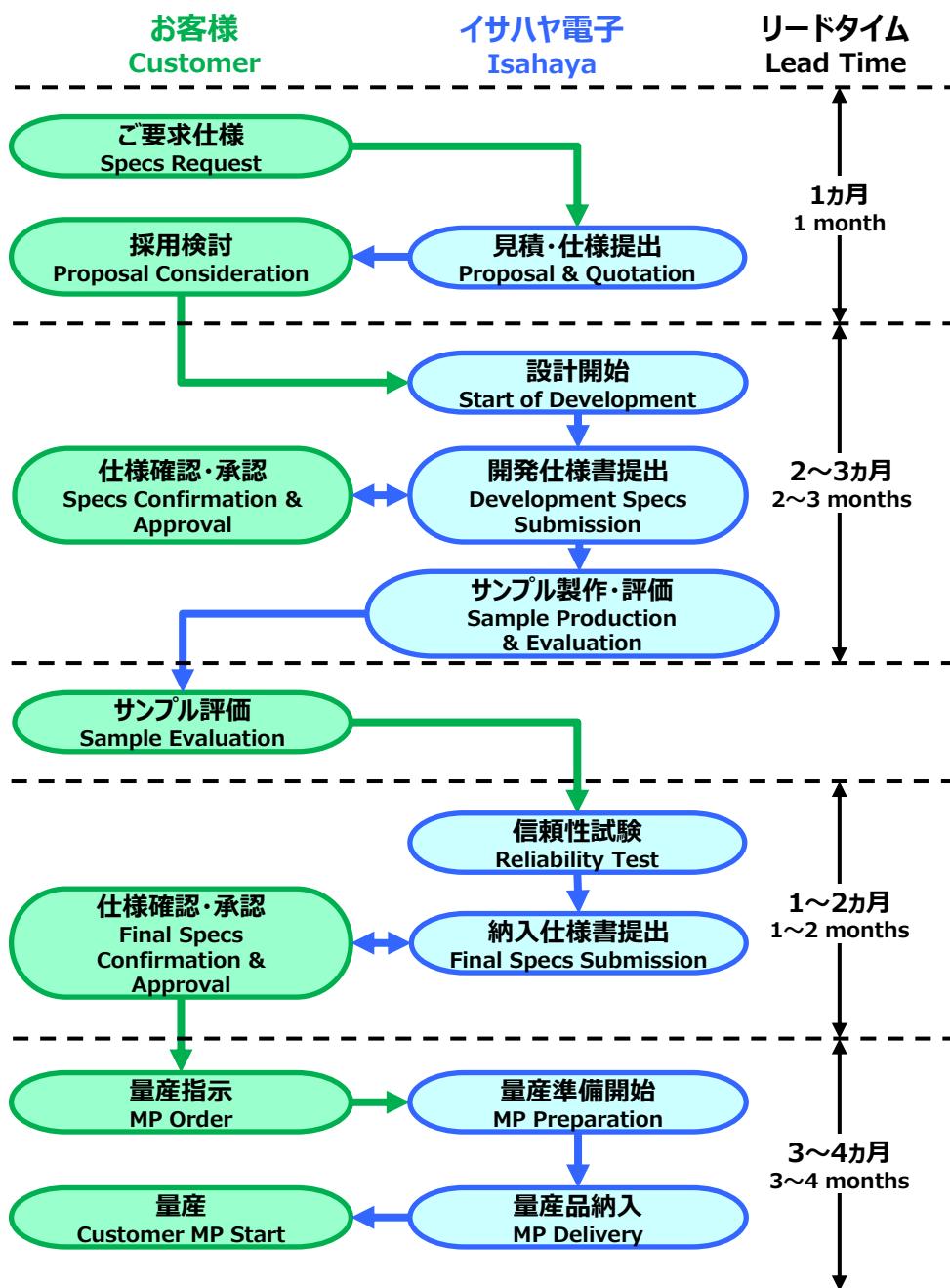
|                 |                                                                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 機能 Function     | <ul style="list-style-type: none"> <li>☑ 力率改善 (PFC)<br/>Power Factor Controller (PFC)</li> <li>☑ 絶縁電源 (DC/DC)<br/>Isolated Power Supply (DC/DC)</li> <li>☑ インバータ Inverter</li> </ul> |
| 入力 Input        | 単相100Vrms, 50/60Hz<br>1-phase 100Vrms, 50/60Hz                                                                                                                                       |
| 出力 Output       | DC48~108V, 12A(max),<br>800W<br>DC14V, 5A, 70W                                                                                                                                       |
| 力率 Power Factor | 0.98 (最大負荷時 at max load)                                                                                                                                                             |
| 効率 Efficiency   | 80% (最大負荷時 at max load)                                                                                                                                                              |
| 冷却 Cooling      | 強制空冷 Air cooling                                                                                                                                                                     |
| サイズ Size        | L×W×H(mm)=316×181×86                                                                                                                                                                 |
| 絶縁耐圧 Isolation  | 入力-出力間 1200Vrms<br>Input-Output 1200Vrms<br>入力-FG間 1200Vrms<br>Input-FG 1200Vrms                                                                                                     |



## ■ 製品開発プロセス Product development process

イサハヤ電子では、お客様よりご提示いただいた仕様に基づき、回路設計、構造設計、機能試験、品質試験を実施いたします。

At Isahaya Electronics we carry out circuit design, structure design, function test and quality assurance based on customer request and target specifications.



(注意) 仕様、ご要求事項によってリードタイムは変わります。

上記リードタイムは目安とし、個別にご相談願います。

Note) Lead time might be affected by customer requests, please take lead time mentioned above as estimates and send in your enquiry for more accurate proposals.



| 本社／研究・開発拠点 Head Office／Research and Development Bases |                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>本社</b><br>Head Office                              | 〒854-0065 長崎県諫早市津久葉町6-41<br>6-41 Tsukuba, Isahaya, Nagasaki 854-0065 Japan<br>TEL : 0957-26-3592(代) FAX : 0957-26-5257                                                                                                                                                                          |
| <b>システム電源開発研究所</b><br>Power Electronics Laboratory    | 〒854-0065 長崎県諫早市津久葉町6-41<br>6-41 Tsukuba, Isahaya, Nagasaki 854-0065 Japan<br>TEL : 0957-25-7117 FAX : 0957-26-4585                                                                                                                                                                             |
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| <b>大阪事務所</b><br>Osaka Office                          | 〒530-0027 大阪府大阪市北区堂山町1-5 三共梅田ビル 9F<br>9F Sankyo Umeda Bldg., 1-5 Douyama-cho, Kita-ku, Osaka City, Osaka 530-0027 Japan<br>TEL : 06-4709-7218(代) FAX : 06-4709-7359                                                                                                                             |
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