# **RT3NGGM**

Composite Transistor With Resistor For Switching Application Silicon Epitaxial Type

### DESCRIPTION

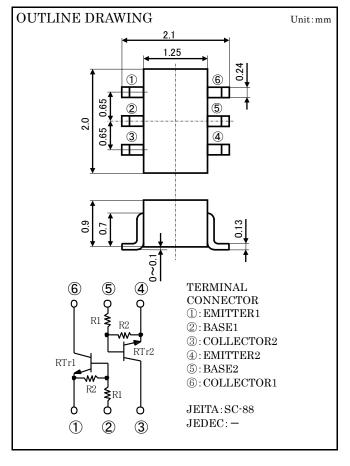
RT3NGGM is composite transistor built with two RT1N432 chips in SC-88 package.

## FEATURE

Silicon epitaxial type Each transistor elements are independent. Mini package for easy mounting

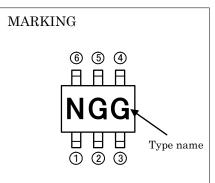
### APPLICATION

Inverted circuit, Switching circuit, Interface circuit, Driver circuit



### MAXIMUM RATING(Ta=25°C)(RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	RATING	UNIT
VCBO	Collector to Base voltage	50	V
VEBO	Emitter to Base voltage	7	V
VCEO	Collector to Emitter voltage	50	V
$V_{\rm IN}$	Input voltage	20	V
Ic	Collector current	100	mA
ICM	Peak Collector current	200	mA
Рт	Total dissipation	200	mW
Tj	Junction temperature	+150	°C
$T_{stg}$	Storage temperature	-55~+150	°C



### ELECTRICAL CHARACTERISTICS(Ta=25°C)(RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	UNII
V(BR)CEO	Collector to Emitter breakdown voltage	$I_C$ =100µA, $R_{BE}$ =∞	50	—	—	V
Ісво	Collector cut off current	$V_{CB}$ =50V, $I_E$ =0	1	_	0.1	μA
IEBO	Emitter cut off current	$V_{EB}=5V$ , $I_C=0$	255	340	493	μΑ
hFE	DC forward current gain	$V_{CE}$ =5V, $I_C$ =10mA	30	—	—	-
VCE(sat)	Collector to Emitter saturation voltage	$I_C=10mA$ , $I_B=0.5mA$	1	0.1	0.3	V
V <sub>I(ON)</sub>	Input on voltage	V <sub>CE</sub> =0.2V, I <sub>C</sub> =5mA	-	1.0	1.8	V
V <sub>I(OFF)</sub>	Input off voltage	V <sub>CE</sub> =5V, I <sub>C</sub> =100µA	0.5	0.8	—	V
$R_1$	Input resistor	-	3.3	4.7	6.1	kΩ
$R_2/R_1$	Resistor ratio	-	1.7	2.1	2.6	-
$_{ m fr}$	Gain band width product	$V_{CE}=6V$ , $I_{E}=-10mA$		200	_	MHz

# ISAHAYA ELECTRONICS CORPORATION

**RT3NGGM** 

Composite Transistor With Resistor For Switching Application Silicon Epitaxial Type

Ta=-40°C

Ta=25°C

10

Ta=-40°C

Ta=25°C

Ta=85°C

1.5

2

100

DC FORWARD CURRENT GAIN

VS COLLECTOR CURRENT

Ta=85°C

COLLECTOR CURRENT IC(mA)

COLLECTOR CURRENT

VS INPUT OFF VOLTAGE

1

1

0.5

### (RTr1,RTr2 COMMON) TOTAL DISSIPATION VS AMBIENT TEMPERATURE 1000 300 VCE=5V (Mm) DC FORWARD CURRENT GAIN TOTAL DISSIPATION PT 00 100 ЧFЕ 10 0 1 0 25 50 75 100 125 150 0.1 AMBIENT TEMPERATURE Ta (°C) INPUT ON VOLTAGE VS COLLECTOR CURRENT 1000 10 VCE=5V VCE=0.2V -40°C Ta=-COLLECTOR CURRENT IC ( $\mu$ A) Ta=25°C INPUT ON VOLTAGE VI(on) (V) Ta=85℃ 100 1 10 0.1 0 10 100 1 INPUT OFF VOLTAGE VI(off) (V) COLLECTOR CURRENT IC(mA) COLLECTOR TO EMITTER SATURATION VOLTAGE VS COLLECTOR CURRENT 1 IC/IB=20/1 COLLECTOR TO EMITTER SATURATION VOLTAGE VCE(sat) (V) Ta=85°C Ta=25°C -40°C Ta= 0.1 0.01 10 1 100 COLLECTOR CURRENT IC(mA)

### TYPICAL CHARACTERISTICS

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