

# RT3TBBM

Composite Transistor With Resistor  
For Switching Application  
Silicon Epitaxial Type

## DESCRIPTION

RT3TBBM is compound transistor built with RT1N231 chip and RT1P231 chip in SC-88 package.

## FEATURE

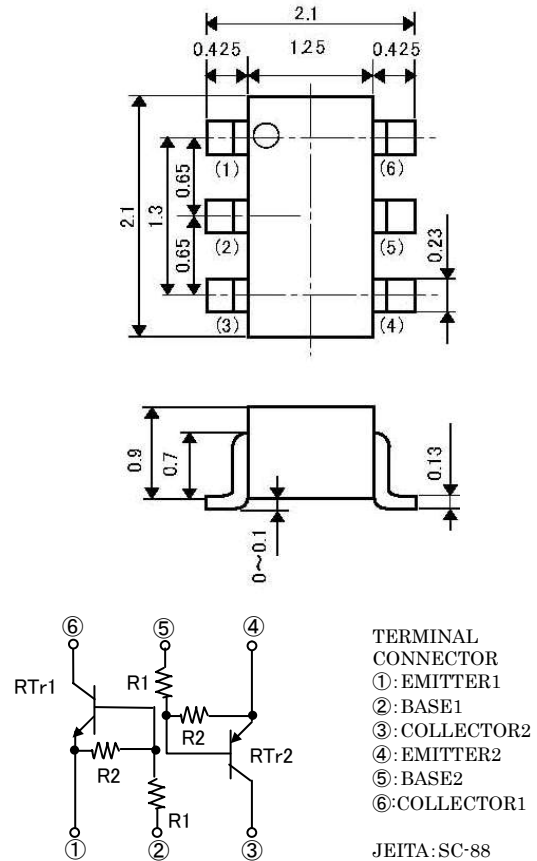
- Silicon epitaxial type
- Each transistor elements are independent.
- Mini package for easy mounting

## APPLICATION

Inverted circuit, switching circuit,  
interface circuit, driver circuit

## OUTLINE DRAWING

Unit: mm

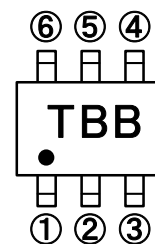


## MAXIMUM RATING (Ta=25°C) (RTr1\_NPN, RTr2\_PNP)

SYMBOL	PARAMETER	RATING	UNIT
VCBO	Collector to Base voltage	50	V
VEBO	Emitter to Base voltage	10	V
VCEO	Collector to Emitter voltage	50	V
VIN	Input voltage	12	V
IC	Collector current	100	mA
ICM	Peak Collector current	200	mA
PC	Collector dissipation (Total, Ta=25°C)	150	mW
Tj	Junction temperature	+150	°C
Tstg	Storage temperature	-55~+150	°C

※PNP built in transistor of "—" sign is abbreviation.

## MARKING



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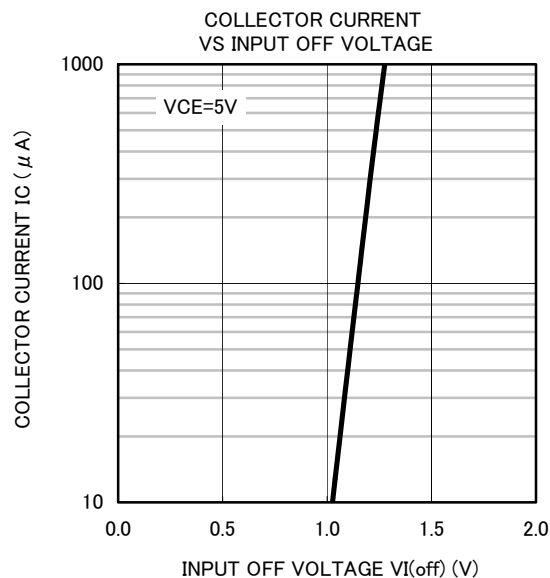
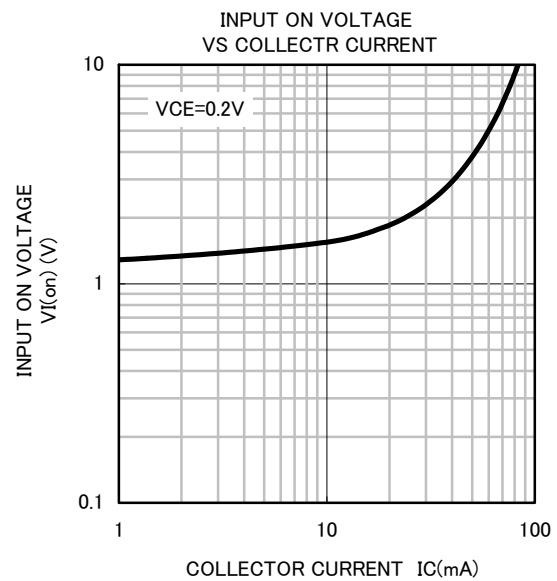
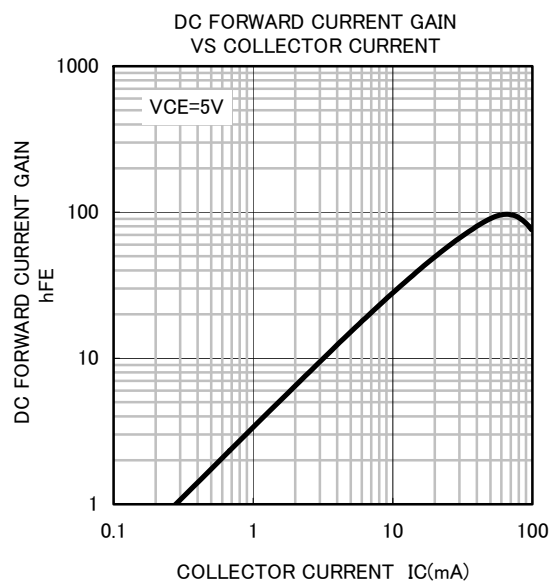
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## ELECTRICAL CHARACTERISTICS (Ta=25°C) (RTr1\_NPN, RTr2\_PNP)

Symbol	Parameter	Test conditions	Limits			Unit
			MAX	TYP	MIN	
V(BR)CEO	Collector to Emitter break down voltage	I <sub>C</sub> =100μA, R <sub>BE</sub> =∞	50	—	—	V
ICBO	Collector cut off current	V <sub>CB</sub> =50V, I <sub>E</sub> =0mA	—	—	0.1	μA
hFE	DC forward current gain	V <sub>CE</sub> =5V, I <sub>C</sub> =20mA	20	—	—	—
VCE(sat)	Collector to Emitter saturation voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA	—	—	0.3	V
VI(ON)	Input on voltage	V <sub>CE</sub> =0.2V, I <sub>C</sub> =5mA	—	1.3	2.2	V
VI(OFF)	Input off voltage	V <sub>CE</sub> =5V, I <sub>C</sub> =100μA	0.7	1.1	—	V
R1	Input resistor		1.5	2.2	2.9	KΩ
R2/R1	Resistor ratio		0.8	1.0	1.2	—
fT	Gain band width product	V <sub>CE</sub> =6V, I <sub>E</sub> =10mA	RTr1	—	200	MHz
			RTr2	—	150	

※PNP built in transistor of “—” sign is abbreviation.

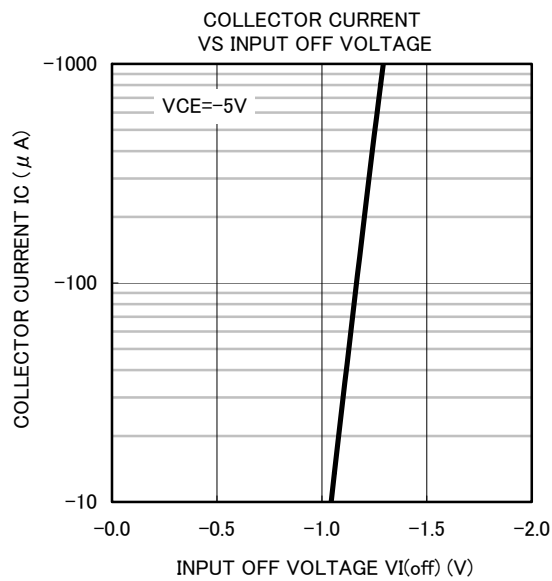
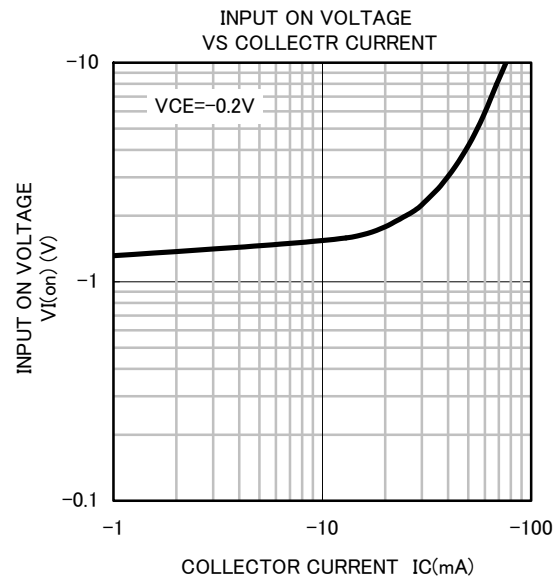
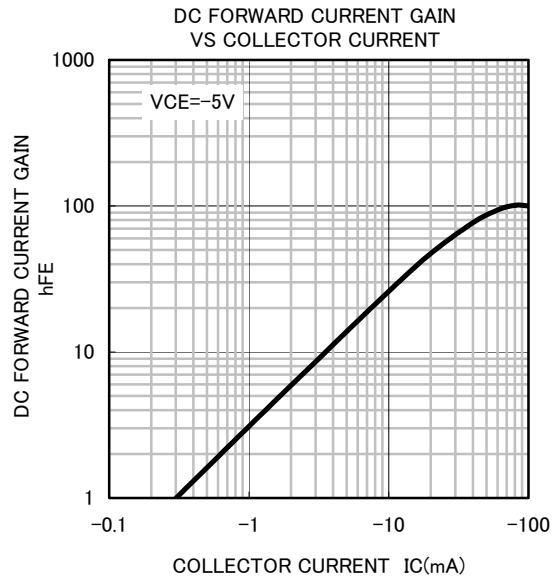
## TYPICAL CHARACTERISTICS (RTr1\_NPN)



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## TYPICAL CHARACTERISTICS (RT<sub>r</sub>2\_PNP)





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