

RT1P231X SERIES

〈Transistor〉

Transistor With Resistor

For Switching Application

Silicon PNP Epitaxial Type

DESCRIPTION

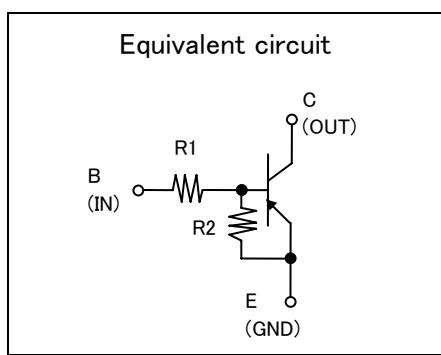
RT1P231X is a one chip transistor with built-in bias resistor, NPN type is RT1N231X.

FEATURE

• Built-in bias resistor ($R1=2.2k\Omega$, $R2=2.2k\Omega$).

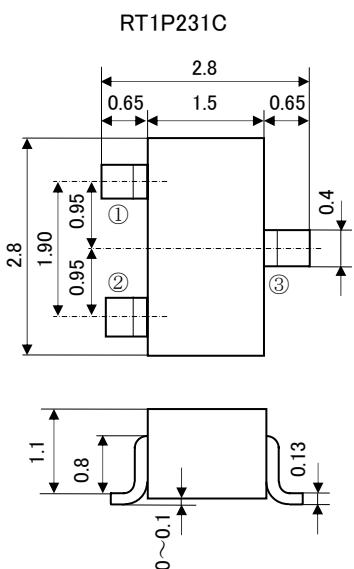
APPLICATION

. Inverted circuit, switching circuit, interface circuit, driver circuit.



OUTLINE DRAWING

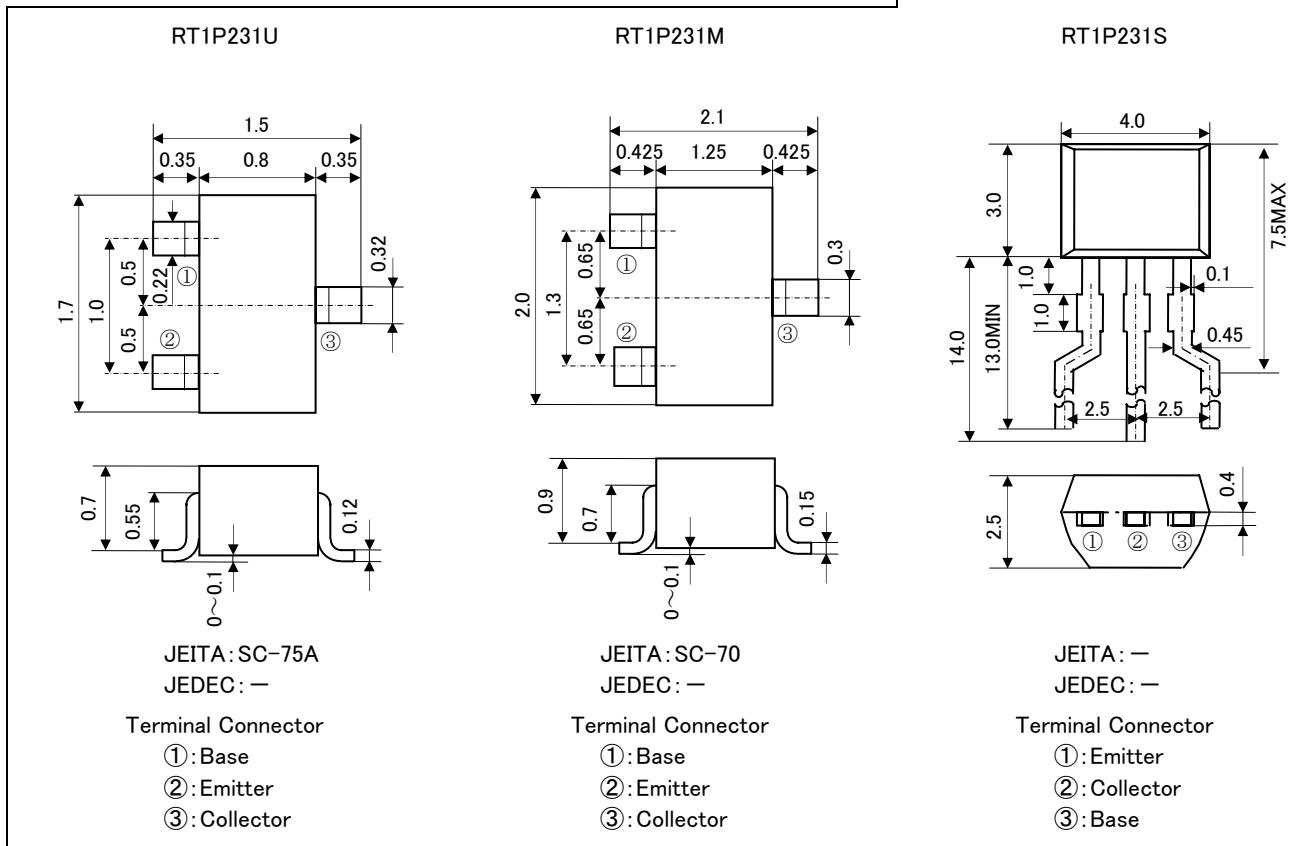
UNIT : mm



JEITA: SC-59
JEDEC: Similar to TO-236

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector



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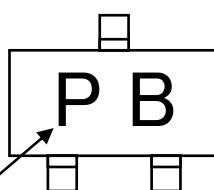
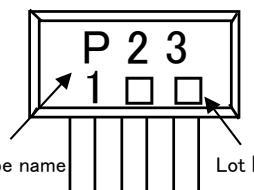
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MARKING

RT1P231C RT1P231M RT1P231U	RT1P231S
 type name	 type name Lot No.

MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING				UNIT
		RT1P231U	RT1P231M	RT1P231C	RT1P231S	
V _{CBO}	Collector to Base voltage			-50		V
V _{EBO}	Emitter to Base voltage			-10		V
V _{CEO}	Collector to Emitter voltage			-50		V
V _{IN}	Input voltage			-12		V
I _C	Collector current			-100		mA
I _{CM}	Peak Collector current			-200		mA
P _C	Collector dissipation(Ta=25°C)	150	200	450		mW
T _j	Junction temperature			+150		°C
T _{stg}	Storage temperature			-55~+150		°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
V _{(BR)CEO}	C to E breakdown voltage	I _C =-100 μA, R _{BE} =∞	-50	—	—	V
I _{CBO}	Collector cut off current	V _{CB} =-50V, I _E =0	—	—	-0.1	μA
I _{EBO}	Emitter cut off current	V _{EB} =-5V, I _C =0	-850	-1140	-1650	μA
h _{FE}	DC forward current gain	V _{CE} =-5V, I _C =-20mA	20	—	—	—
V _{CE(sat)}	C to E saturation voltage	I _C =-10mA, I _B =-0.5mA	—	—	-0.3	V
V _{I(ON)}	Input on voltage	V _{CE} =-0.2V, I _C =-5mA	—	-1.3	-2.2	V
V _{I(OFF)}	Input off voltage	V _{CE} =-5V, I _C =-100 μA	-0.7	-1.1	—	V
R ₁	Input resistor	—	1.5	2.2	2.9	kΩ
R ₂ /R ₁	Resistor ratio	—	0.8	1.0	1.2	—
f _T	Gain band width product	V _{CE} =-6V, I _E =10mA	—	150	—	MHz

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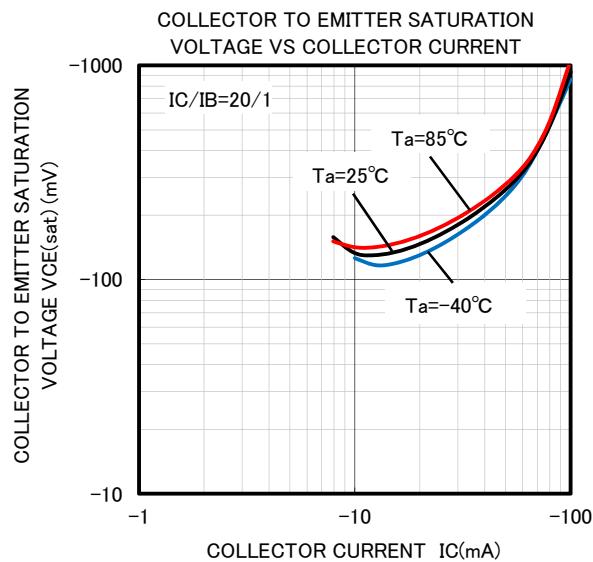
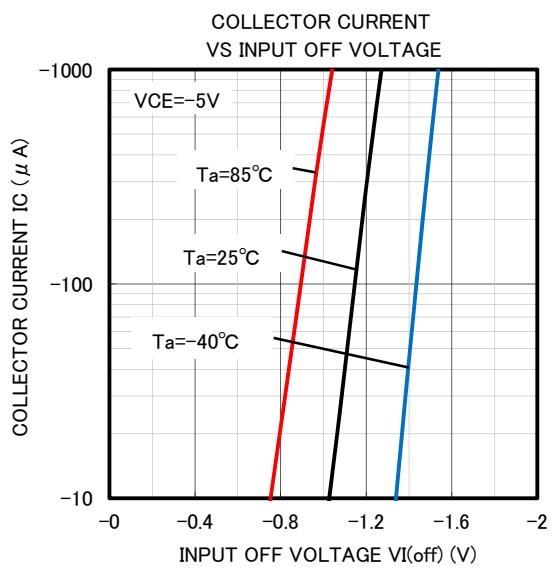
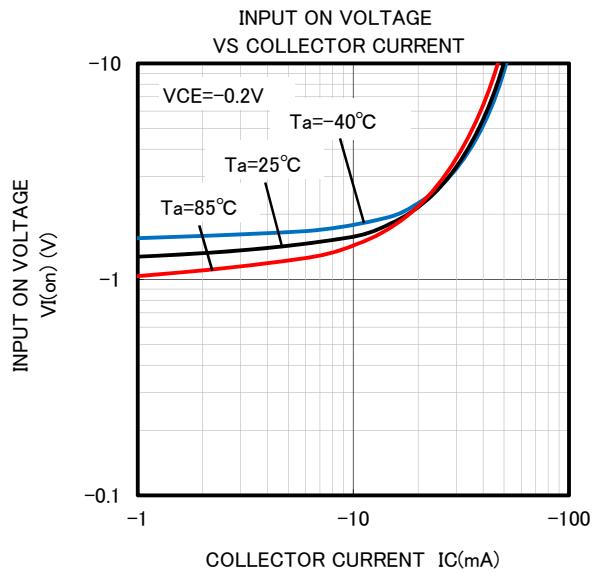
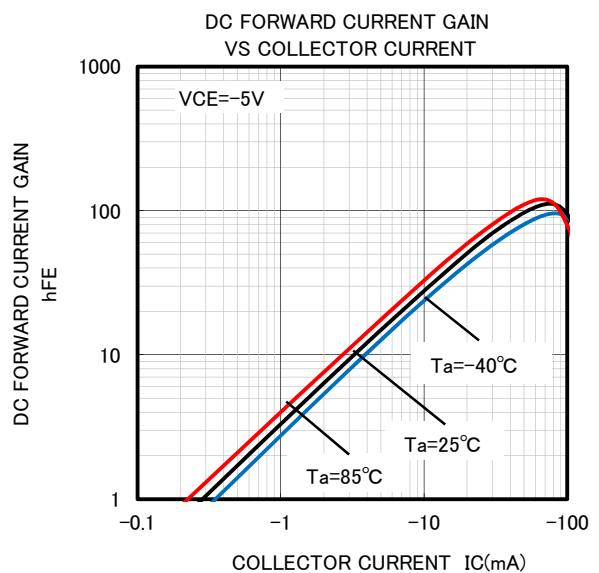
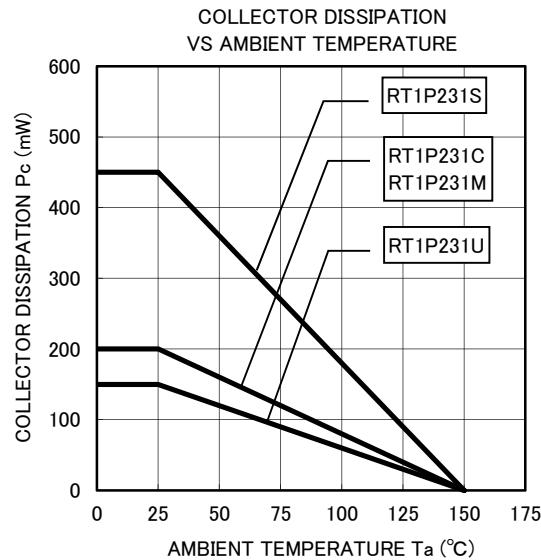
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TYPICAL CHARACTERISTICS





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