

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.

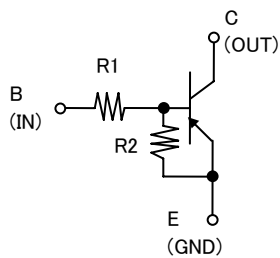
FEATURE

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

APPLICATION

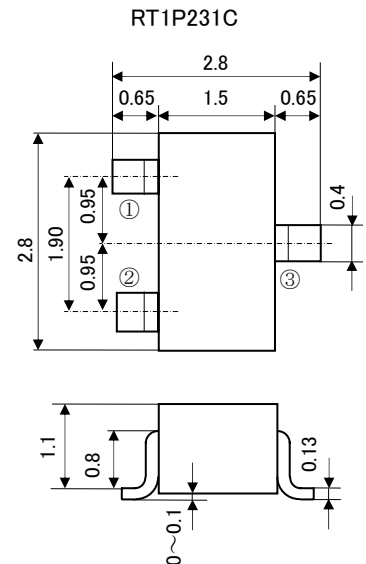
. Inverted circuit, switching circuit, interface circuit, driver circuit.

Equivalent circuit



OUTLINE DRAWING

UNIT : mm



JEITA : SC-59

JEDEC : Similar to TO-236

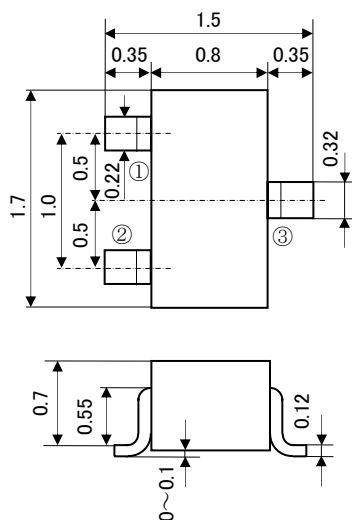
Terminal Connector

① : Base

② : Emitter

③ : Collector

RT1P231U



JEITA : SC-75A

JEDEC : —

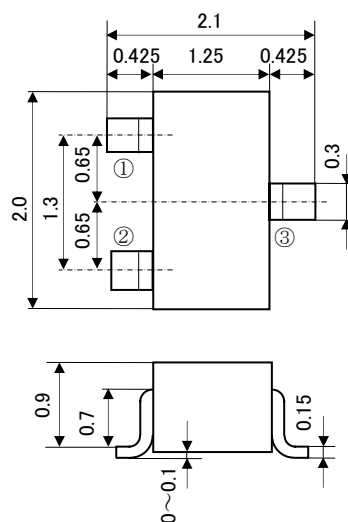
Terminal Connector

① : Base

② : Emitter

③ : Collector

RT1P231M



JEITA : SC-70

JEDEC : —

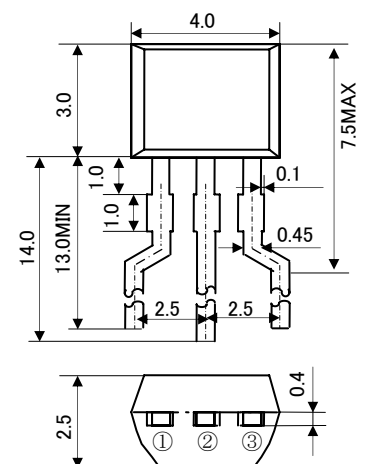
Terminal Connector

① : Base

② : Emitter

③ : Collector

RT1P231S



JEITA : —

JEDEC : —

Terminal Connector

① : Emitter

② : Collector

③ : Base

RT1P231X SERIES

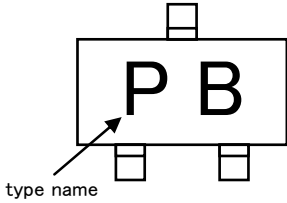
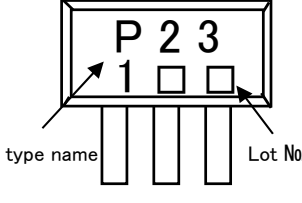
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MARKING

RT1P231C RT1P231M RT1P231U	RT1P231S
	

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	$I_C = -100 \mu A, R_{BE} = \infty$	-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	$V_{CE} = -5V, I_C = -100 \mu A$	-0.7	-1.1	—	V
R_1	Input resistor	—	1.5	2.2	2.9	k Ω
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

RT1P231X SERIES

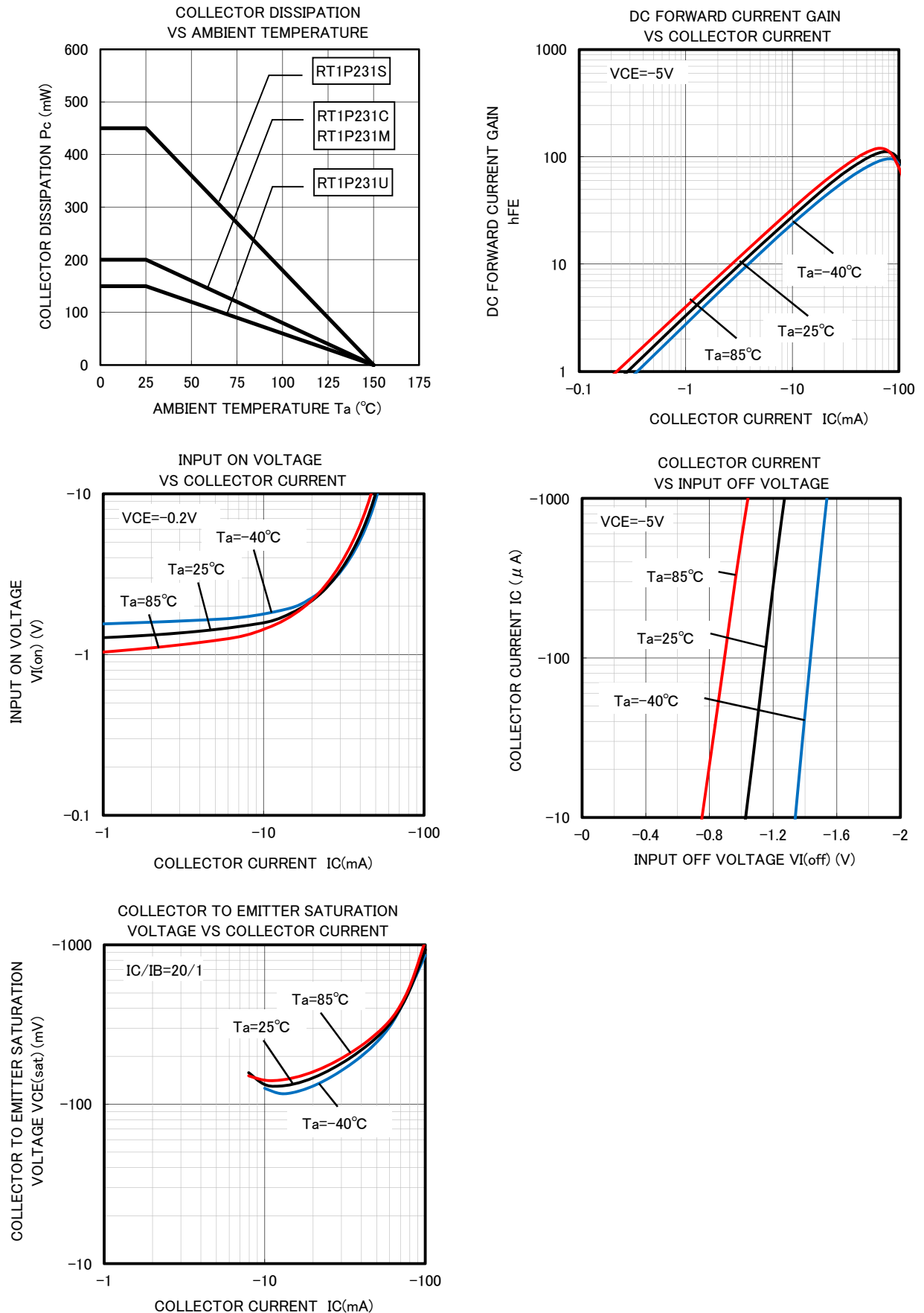
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TYPICAL CHARACTERISTICS





Keep safety first in your circuit designs!

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