

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.

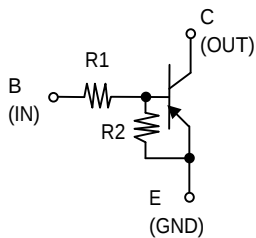
FEATURE

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

APPLICATION

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

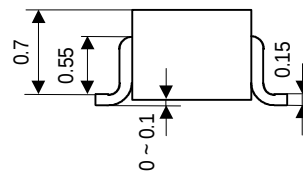
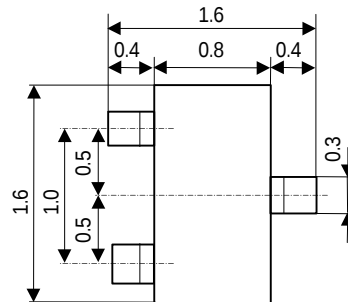
Equivalent circuit



OUTLINE DRAWING

UNIT : mm

RT1P231U



JEITA: -

JEDEC: -

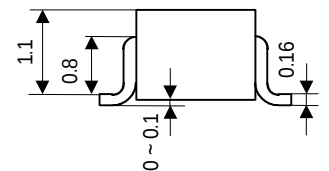
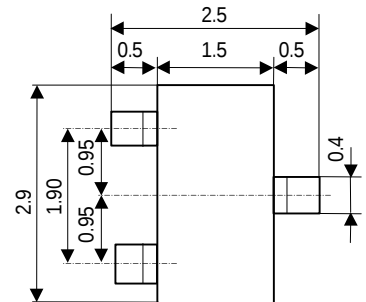
Terminal Connector

: Base

: Emitter

: Collector

RT1P231C



JEITA: SC-59

JEDEC: Similar to TO-236

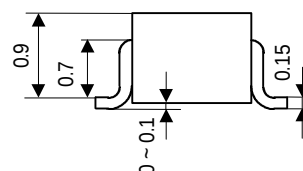
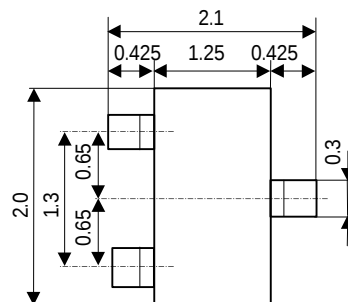
Terminal Connector

: Base

: Emitter

: Collector

RT1P231M



JEITA: SC-70

JEDEC: -

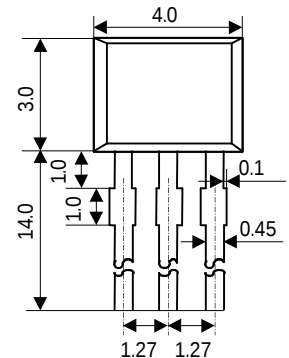
Terminal Connector

: Base

: Emitter

: Collector

RT1P231S



JEITA: -

JEDEC: -

Terminal Connector

: Emitter

: Collector

: Base

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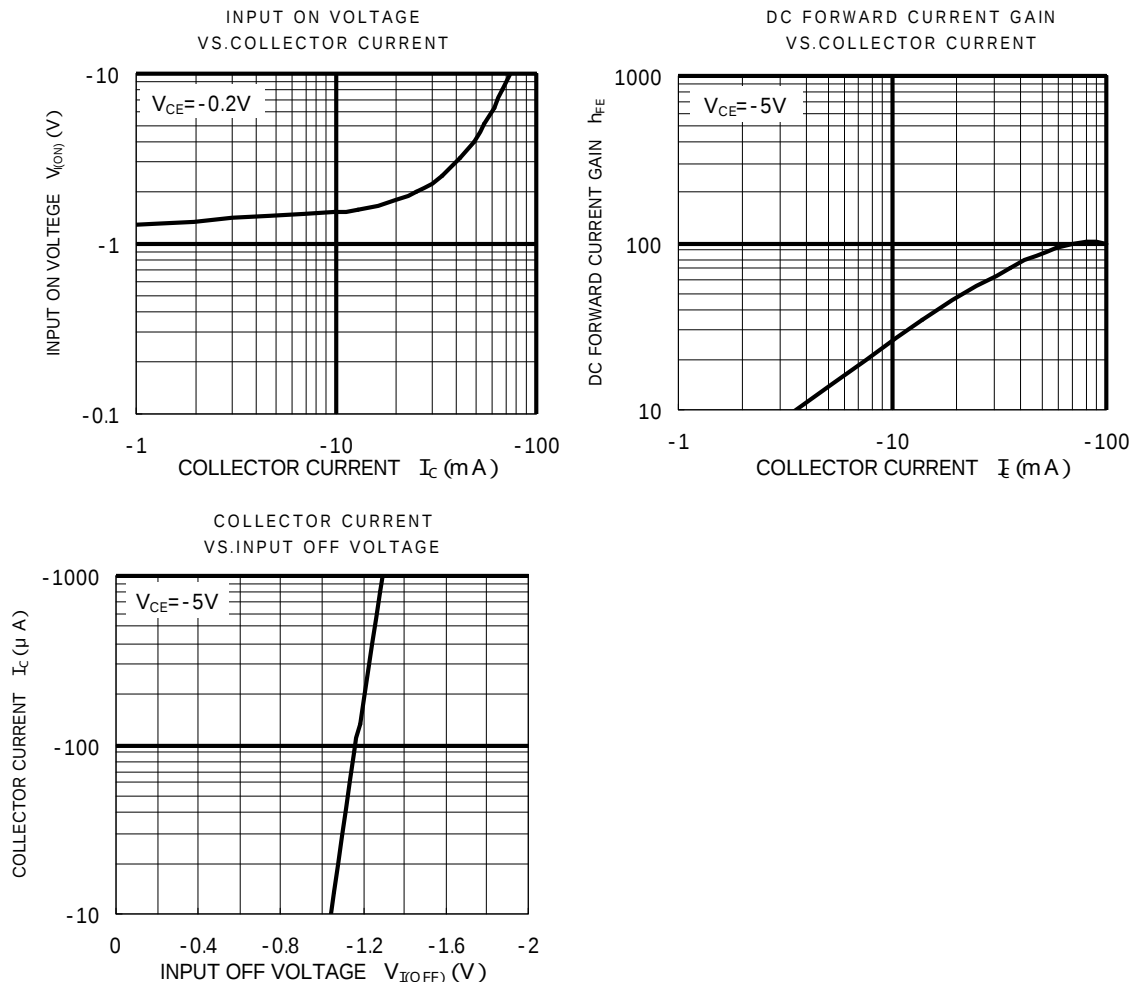
MAXIMUM RATING (Ta=25 °C)

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
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	+150			
T_{stg}	Storage temperature	-55 ~ +150		-55 ~ +150		

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down 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
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 resistance		1.5	2.2	2.9	k Ω
R_2 / R_1	Resistance ratio		0.8	1.0	1.2	
f_T	Gain band width product	$V_{CE} = -6V, I_E = 10mA$		150		MHz

TYPICAL CHARACTERISTICS





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