

RT1N237X SERIES

〈Transistor〉

Transistor With Resistor

For Switching Application

Silicon NPN Epitaxial Type

DESCRIPTION

RT1N237X is a one chip transistor with built-in bias resistor, PNP type is RT1P237X.

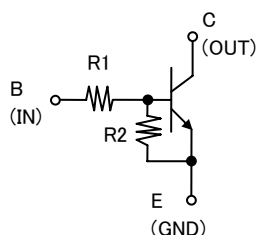
FEATURE

- Built-in bias resistor ($R1=2.2k\Omega$, $R2=47k\Omega$).

APPLICATION

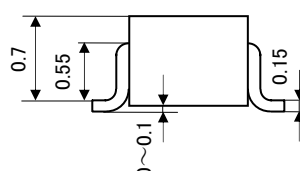
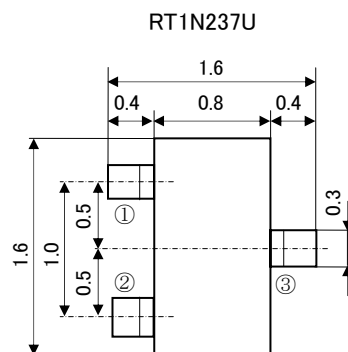
Inverted circuit, switching circuit, interface circuit, driver circuit.

Equivalent circuit



OUTLINE DRAWING

UNIT : mm

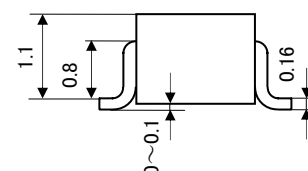
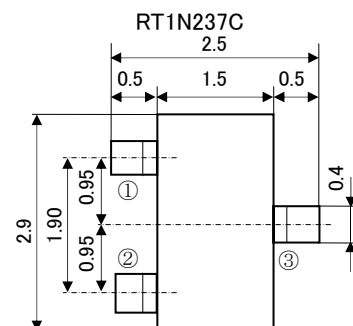


JEITA: —

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

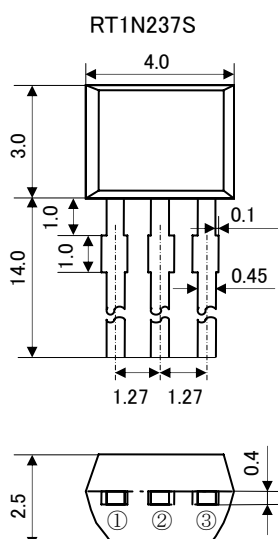


JEITA: SC-59

JEDEC: Similar to TO-236

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

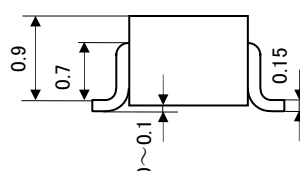
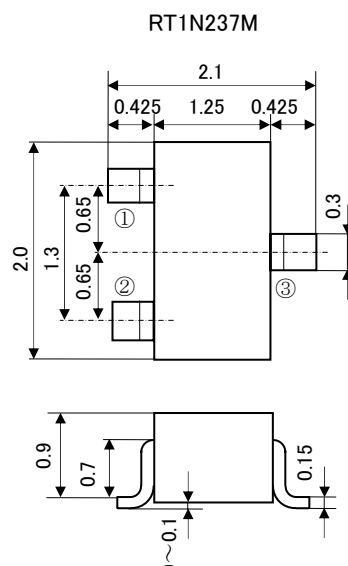


JEITA: —

JEDEC: —

Terminal Connector

- ①: Emitter
- ②: Collector
- ③: Base

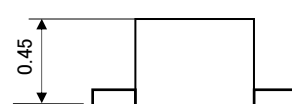
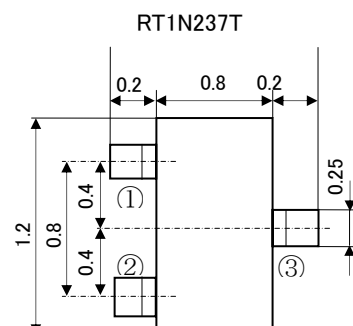


JEITA: SC-70

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector



JEITA: —

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

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MAXIMUM RATING (Ta=25°C)

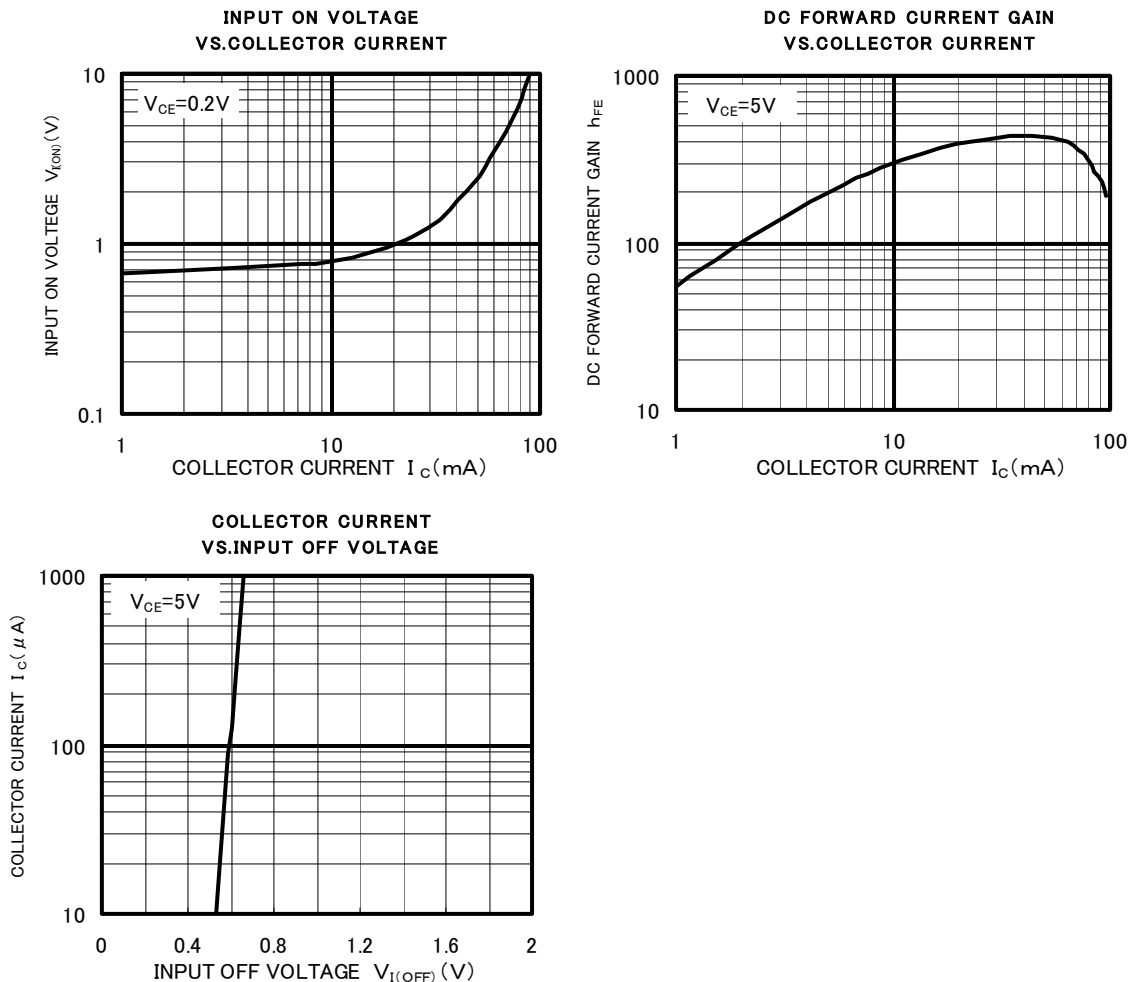
SYMBOL	PARAMETER	RATING					UNIT
		RT1N237T	RT1N237U	RT1N237M	RT1N237C	RT1N237S	
V _{CBO}	Collector to Base voltage	50					V
V _{EBO}	Emitter to Base voltage	6					V
V _{CEO}	Collector to Emitter voltage	50					V
I _C	Collector current	100					mA
I _{CM}	Peak Collector current	200					mA
P _C	Collector dissipation(Ta=25°C)	125 (※)	150	200		450	mW
Tj	Junction temperature	+125	+150				°C
Tstg	Storage temperature	-55~+125	-55~+150				°C

(※) package mounted on 9mm × 19mm × 1mm glass-epoxy substrate.

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	$V_{CE}=5V$, $I_C=10mA$	80			—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10mA$, $I_B=0.5mA$			0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V$, $I_C=5mA$		0.7	1.1	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V$, $I_C=100\mu A$	0.5	0.6		V
R_1	Input resistance		1.5	2.2	2.9	$k\Omega$
R_2/R_1	Resistance ratio			22		
f_T	Gain band width product	$V_{CE}=6V$, $I_E=-10mA$		200		MHz

TYPICAL CHARACTERISTICS





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