

# RT1N237X SERIES

<Transistor>

Transistor With Resistor

For Switching Application

Silicon NPN Epitaxial Type

## DESCRIPTION

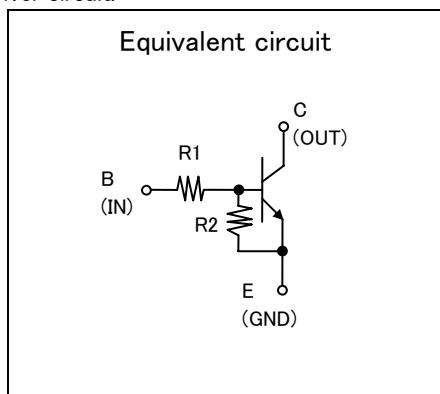
RT1N237X is a one chip transistor with built-in bias resistor, PNP type is RT1P237X.

## FEATURE

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

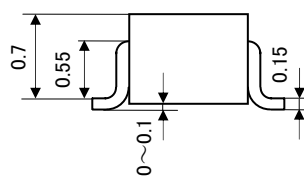
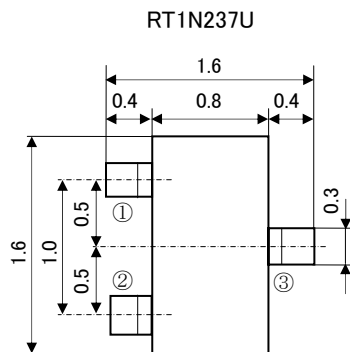
## APPLICATION

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



## OUTLINE DRAWING

UNIT : mm

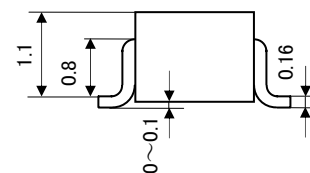
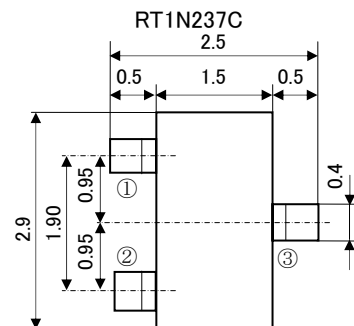


JEITA: —

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

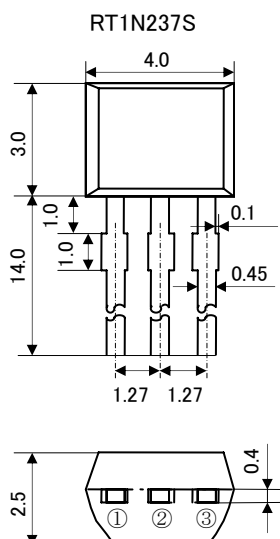


JEITA: SC-59

JEDEC: Similar to TO-236

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

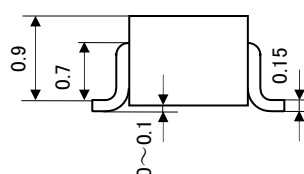
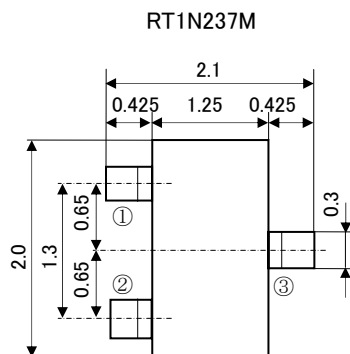


JEITA: —

JEDEC: —

Terminal Connector

- ①: Emitter
- ②: Collector
- ③: Base

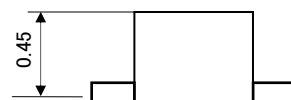
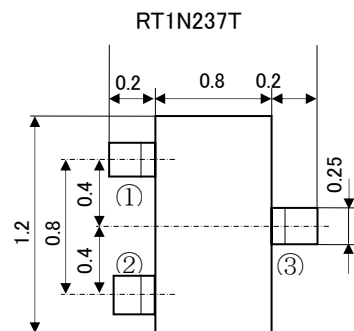


JEITA: SC-70

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)

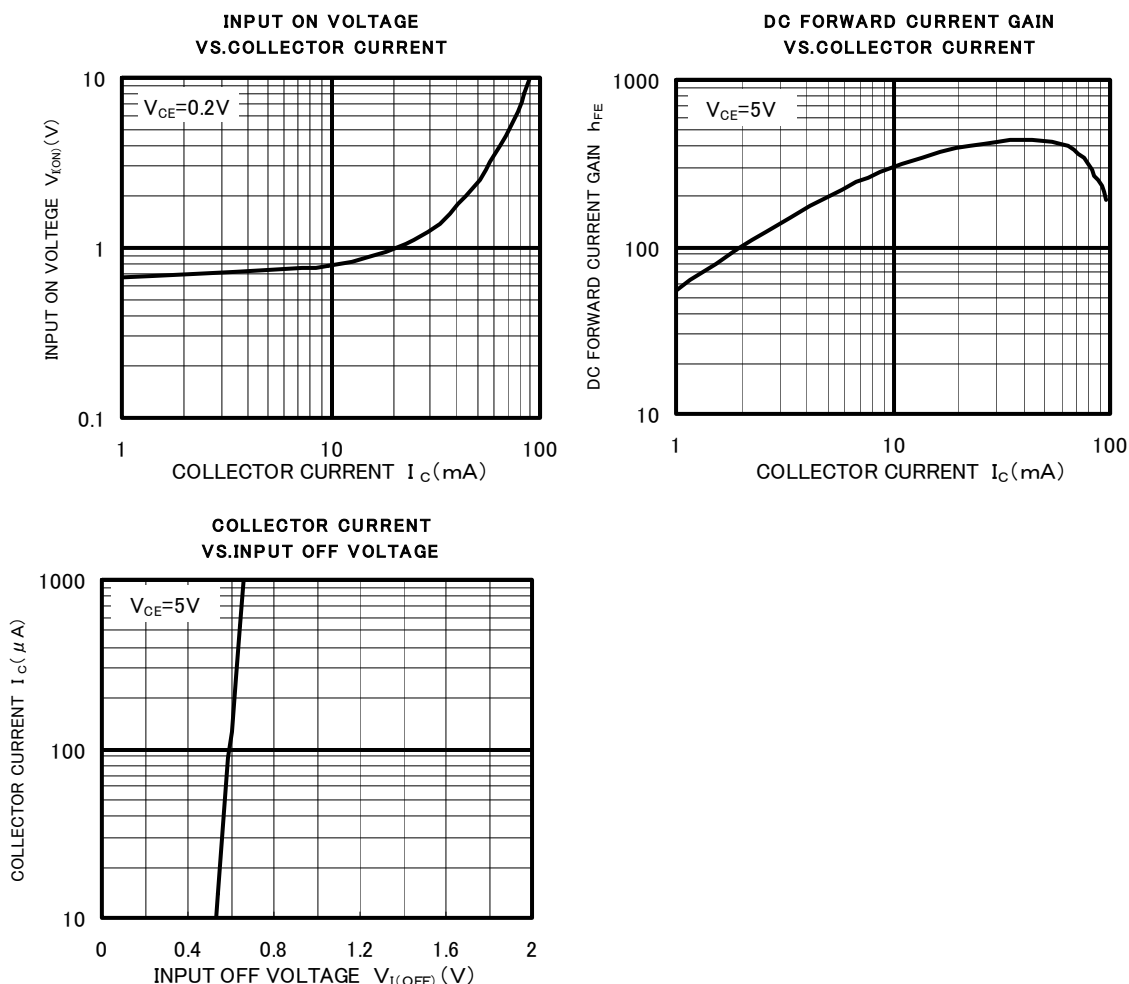
SYMBOL	PARAMETER	RATING					UNI T
		RT1N237T	RT1N237U	RT1N237M	RT1N237C	RT1N237S	
$V_{CBO}$	Collector to Base voltage	50					V
$V_{EBO}$	Emitter to Base voltage	6					V
$V_{CEO}$	Collector to Emitter voltage	50					V
$I_C$	Collector current	100					mA
$I_{CM}$	Peak Collector current	200					mA
$P_C$	Collector dissipation(Ta=25°C)	125 (※)	150	200	450	mW	
$T_j$	Junction temperature	+125	+150			°C	
$T_{stg}$	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	$\mu A$
$h_{FE}$	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





*Marketing division, Marketing planning department*

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