

# RT1N242X SERIES

Transistor

Transistor With Resistor  
For Switching Application  
Silicon NPN Epitaxial Type

## DESCRIPTION

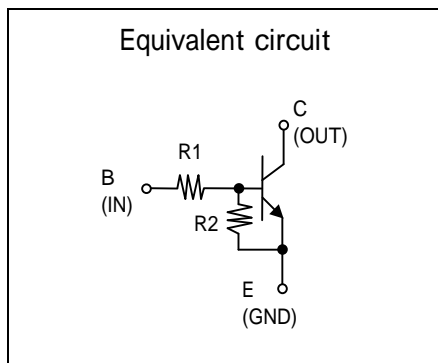
RT1N242X is a one chip transistor with built-in bias resistor, PNP type is RT1P242X.

## FEATURE

- Built-in bias resistor (R1=22k, R2=47k).

## APPLICATION

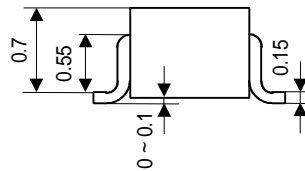
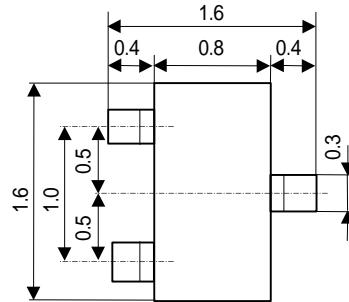
Inverted circuit, switching circuit, interface circuit, driver circuit.



## OUTLINE DRAWING

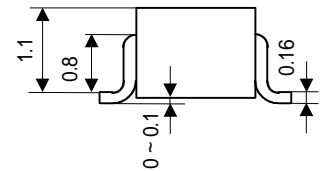
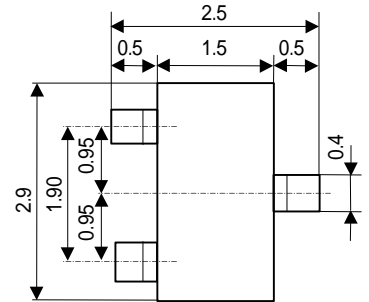
UNIT : mm

RT1N242U



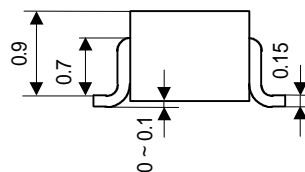
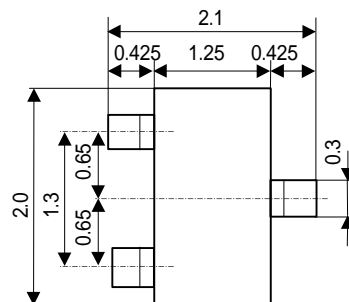
JEITA: -  
JEDEC: -  
Terminal Connector  
: Base  
: Emitter  
: Collector

RT1N242C



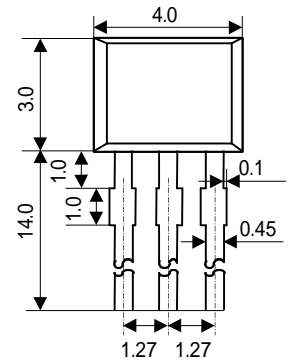
JEITA: SC-59  
JEDEC: Similar to TO-236  
Terminal Connector  
: Base  
: Emitter  
: Collector

RT1N242M



JEITA: SC-70  
JEDEC: -  
Terminal Connector  
: Base  
: Emitter  
: Collector

RT1N242S



JEITA: -  
JEDEC: -  
Terminal Connector  
: Emitter  
: Collector  
: Base

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Transistor

Transistor With Resistor  
For Switching Application  
Silicon NPN Epitaxial Type

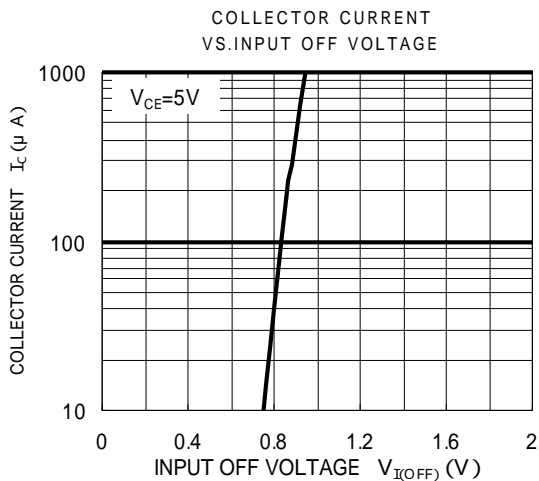
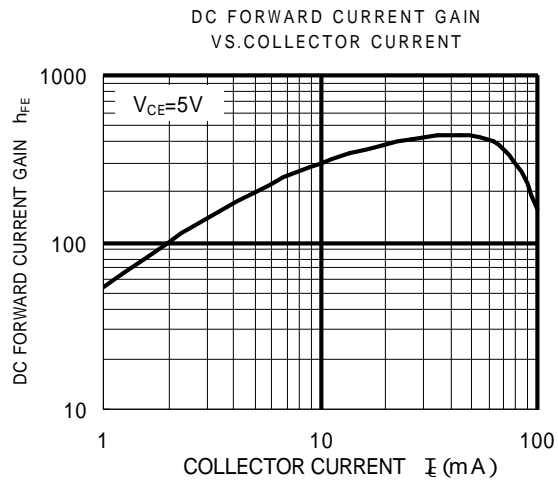
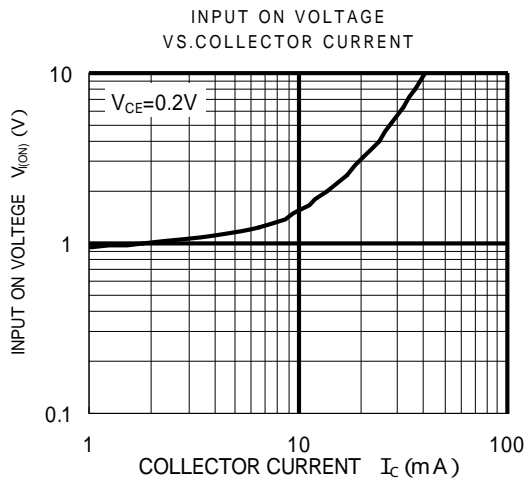
## MAXIMUM RATING (Ta=25 )

SYMBOL	PARAMETER	RATING				UNIT
		RT1N242U	RT1N242M	RT1N242C	RT1N242S	
$V_{CBO}$	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 )	150	200	450	mW	
$T_j$	Junction temperature	+150	+150			
$T_{stg}$	Storage temperature	-55 ~ +150		-55 ~ +150		

## ELECTRICAL CHARACTERISTICS (Ta=25 )

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	$V_{CE}=5V, I_C=5mA$	68			-
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10mA, I_B=0.5mA$			0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V, I_C=5mA$		1.2	3.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V, I_C=100 \mu A$	0.6	0.8		V
$R_1$	Input resistance		15	22	29	k
$R_2 / R_1$	Resistance ratio		1.7	2.1	2.6	
$f_T$	Gain band width product	$V_{CE}=6V, I_E=-10mA$		200		MHz

## TYPICAL CHARACTERISTICS





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