

RT1N441X SERIES

〈Transistor〉

Transistor With Resistor

For Switching Application

Silicon NPN Epitaxial Type

DESCRIPTION

RT1N441X is a one chip transistor with built-in bias resistor, PNP type is RT1P441X.

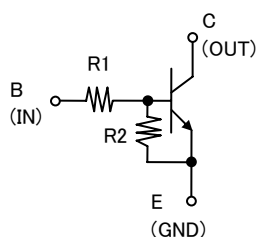
FEATURE

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

APPLICATION

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

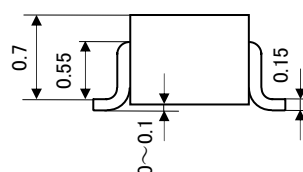
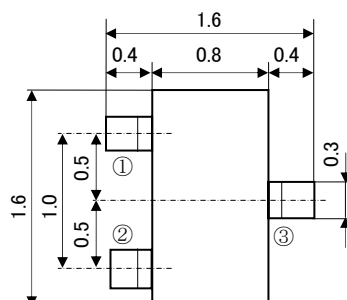
Equivalent circuit



OUTLINE DRAWING

UNIT : mm

RT1N441U



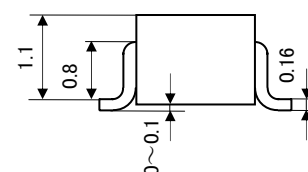
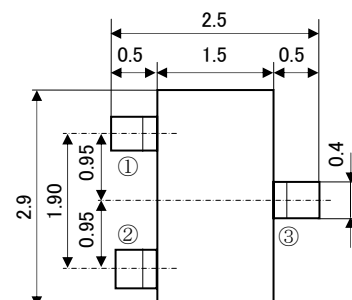
JEITA: —

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

RT1N441C



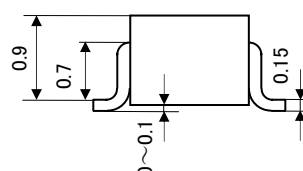
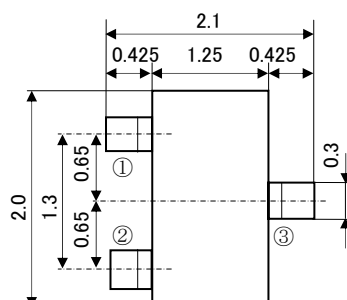
JEITA: SC-59

JEDEC: Similar to TO-236

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

RT1N441M



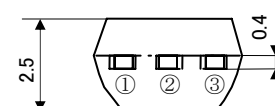
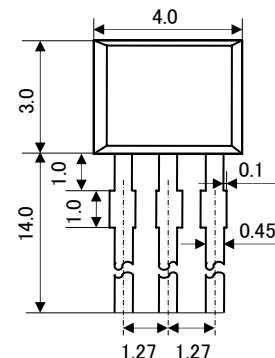
JEITA: SC-70

JEDEC: —

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

RT1N441S



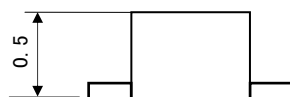
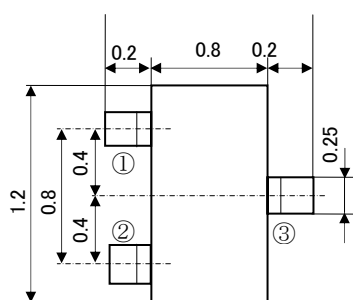
JEITA: —

JEDEC: —

Terminal Connector

- ①: Emitter
- ②: Collector
- ③: Base

RT1N441T



JEITA, JEDEC: —

ISAHAYA: T-USM

Terminal Connector

- ①: Base
- ②: Emitter
- ③: Collector

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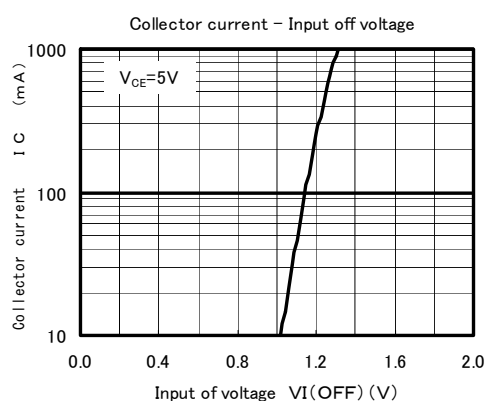
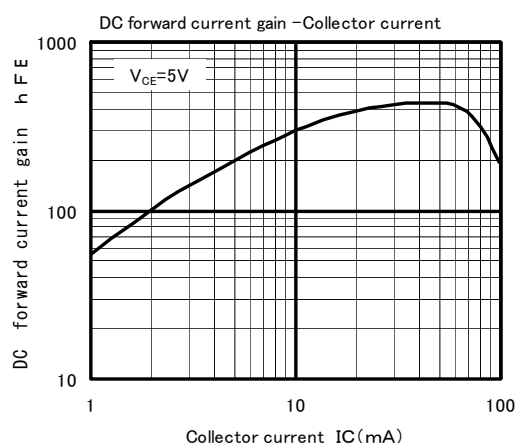
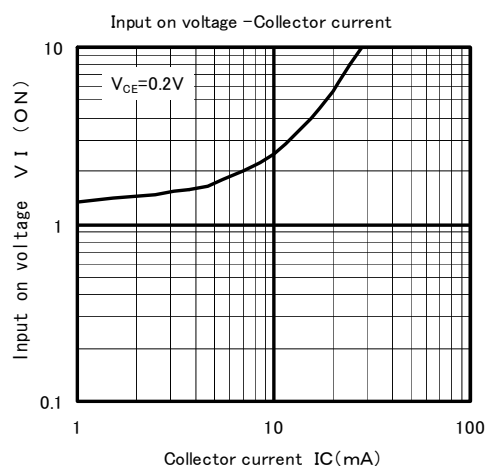
MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING					UNIT
		RT1N441T	RT1N441U	RT1N441M	RT1N441C	RT1N441S	
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	40					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	μA
h_{FE}	DC forward current gain	$V_{CE}=5V, I_C=5mA$	50			—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10mA, I_B=0.5mA$		0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V, I_C=5mA$		2.2	5.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V, I_C=100\mu A$	0.8	1.1		V
R_1	Input resistance		33	47	61	k Ω
R_2/R_1	Resistance ratio		0.9	1.0	1.1	
f_T	Gain band width product	$V_{CE}=6V, I_E=-10mA$		200		MHz





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