

RT1N431X SERIES

<Transistor>

Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

DESCRIPTION

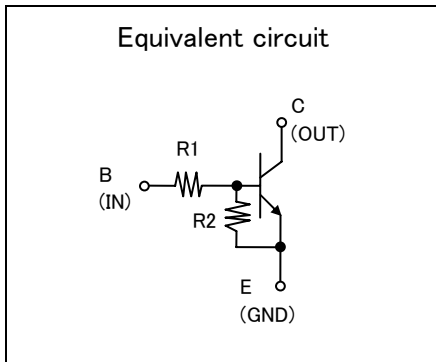
RT1N431X is a one chip transistor with built-in bias resistor, PNP type is RT1P431X.

FEATURE

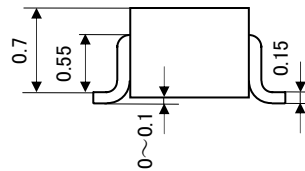
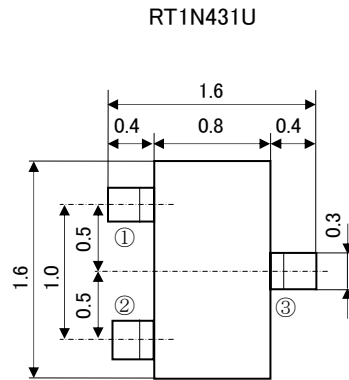
- Built-in bias resistor ($R1=4.7k\Omega, R2=4.7k\Omega$).

APPLICATION

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



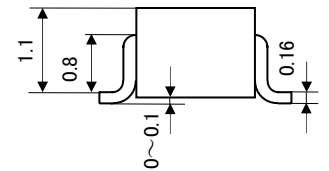
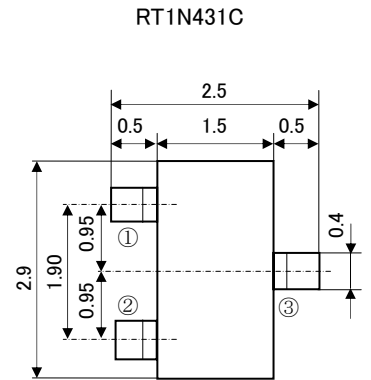
OUTLINE DRAWING UNIT : mm



JEITA: —
JEDEC: —

Terminal Connector

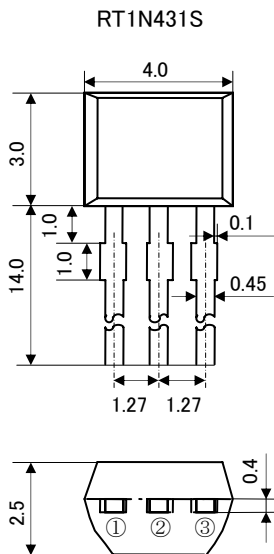
- ①: Base
- ②: Emitter
- ③: Collector



JEITA: SC-59
JEDEC: Similar to TO-236

Terminal Connector

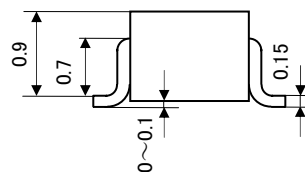
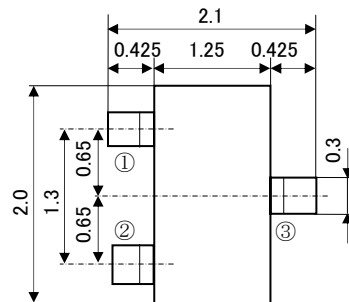
- ①: Base
- ②: Emitter
- ③: Collector



JEITA: —
JEDEC: —

Terminal Connector

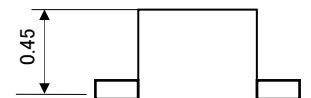
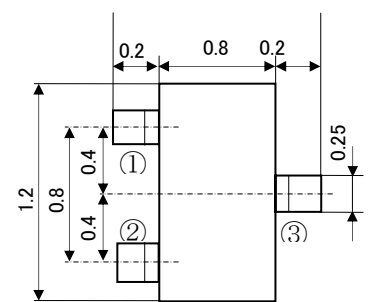
- ①: Emitter
- ②: Collector
- ③: Base



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)

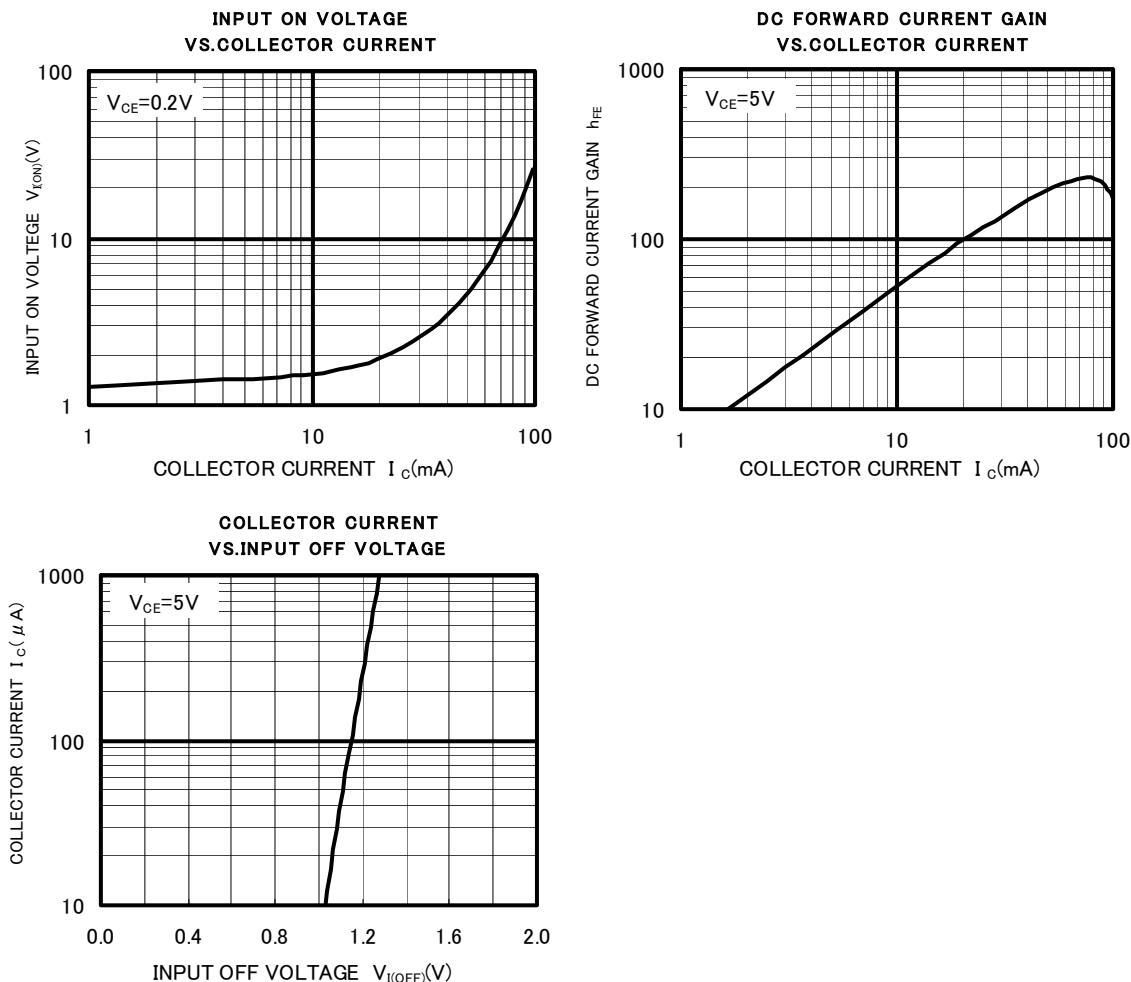
SYMBOL	PARAMETER	RATING					UNIT
		RT1N431T	RT1N431U	RT1N431M	RT1N431C	RT1N431S	
V_{CBO}	Collector to Base voltage	50					V
V_{EBO}	Emitter to Base voltage	10					V
V_{CEO}	Collector to Emitter voltage	50					V
I_C	Collector current	100					mA
I_{CM}	Peak Collector current	200					mA
P_C	Collector dissipation(Ta=25°C)	125 (※)	125	150		450	mW
T_j	Junction temperature	+125			+150		°C
T_{stg}	Storage temperature	-55~+125			-55~+150		°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

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	$V_{CE}=5V, I_C=10mA$	20			—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10mA, I_B=0.5mA$		0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V, I_C=5mA$		1.4	2.3	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V, I_C=100\mu A$	0.8	1.1		V
R_1	Input resistance		3.3	4.7	6.1	k Ω
R_2/R_1	Resistance ratio		0.8	1.0	1.2	
f_T	Gain band width product	$V_{CE}=6V, I_E=-10mA$		200		MHz

TYPICAL CHARACTERISTICS





Marketing division, Marketing planning department

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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