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RT1P144X SERIES

〈Transistor〉

Transistor With Resistor
For Switching Application
Silicon PNP Epitaxial Type

DESCRIPTION

RT1P144X is a one chip transistor with built-in bias resistor,NPN type is RT1N144X.

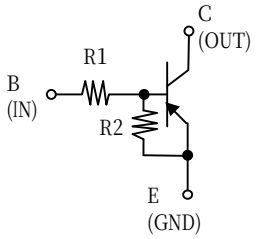
FEATURE

・Built-in bias resistor (R1=10kΩ,R2=47kΩ).

APPLICATION

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

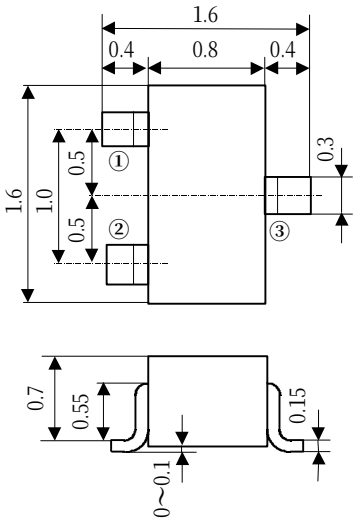
Equivalent circuit



OUTLINE DRAWING

UNIT: mm

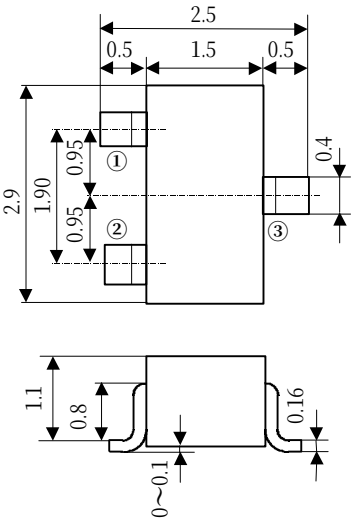
RT1P144U



JEITA: —
JEDEC: —

Terminal Connector
①: Base
②: Emitter
③: Collector

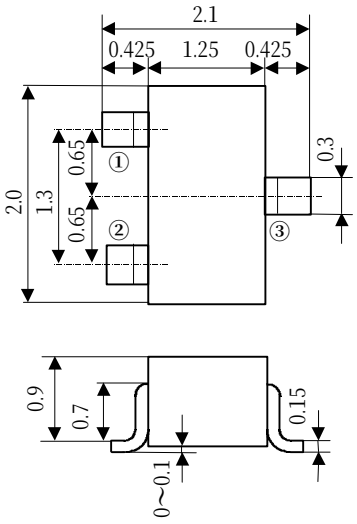
RT1P144C



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

Terminal Connector
①: Base
②: Emitter
③: Collector

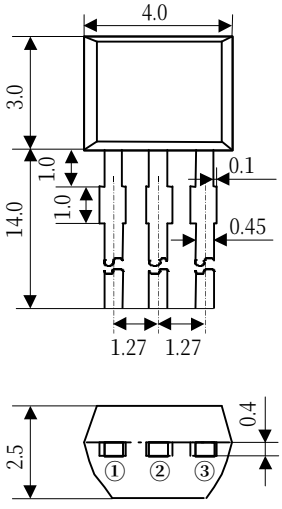
RT1P144M



JEITA: SC-70
JEDEC: —

Terminal Connector
①: Base
②: Emitter
③: Collector

RT1P144S



JEITA: —
JEDEC: —

Terminal Connector
①: Emitter
②: Collector
③: Base

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MAXIMUM RATING (Ta=25℃)

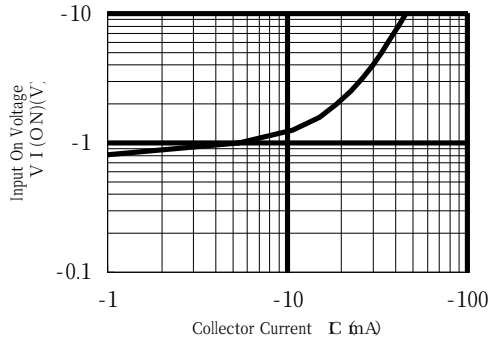
SYMBOL	PARAMETER	RATING				UNIT
		RT1P144U	RT1P144M	RT1P144C	RT1P144S	
V_{CBO}	Collector to Base voltage	-50				V
V_{EBO}	Emitter to Base voltage	-6				V
V_{CEO}	Collector to Emitter voltage	-50				V
I_C	Collector current	-100				mA
I_{CM}	Peak Collector current	-200				mA
P_C	Collector dissipation(Ta=25°C)	150	200		450	mW
Tj	Junction temperature	+150	+150			°C
Tstg	Storage temperature	-55～+150	-55～+150			°C

ELECTRICAL CHARACTERISTICS (Ta=25℃)

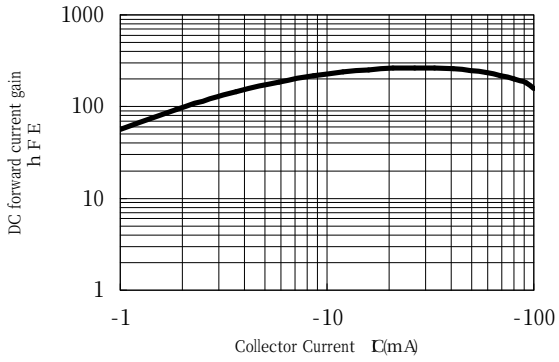
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down voltage	I_C=-100μA, R_{BE}=∞	-50			V
I_{CBO}	Collector cut off current	V_{CB}=-50V, I_E=0			-0.1	μA
h_{FE}	DC forward current gain	V_{CE}=-5V, I_C=-5mA	50			—
$V_{CE(sat)}$	C to E saturation voltage	I_C=-10mA, I_B=-0.5mA		-0.1	-0.3	V
$V_{I(ON)}$	Input on voltage	V_{CE}=-0.2V, I_C=-5mA		-1.2	-1.8	V
$V_{I(OFF)}$	Input off voltage	V_{CE}=-5V, I_C=-100μA	-0.4	-0.7		V
R_1	Input resistance		7	10	13	kΩ
R_2/R_1	Resistance ratio		4.2	4.7	5.1	
f_T	Gain band width product	V_{CE}=-6V, I_E=10mA		150		MHz

TYPICAL CHARACTERISTICS

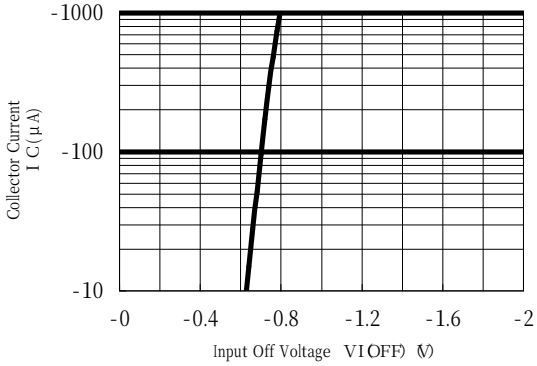
Input On Voltage - Collector Current



DC forward current gain-Collector Current



Collector Current - Input Off Voltage



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ISAHAYA ELECTRONICS CORPORATION

Marketing division, Marketing planning department

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

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