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.

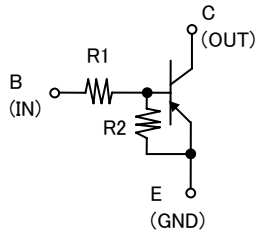
FEATURE

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

APPLICATION

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

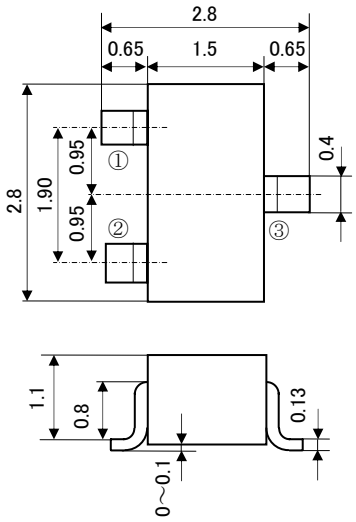
Equivalent circuit



OUTLINE DRAWING

UNIT : mm

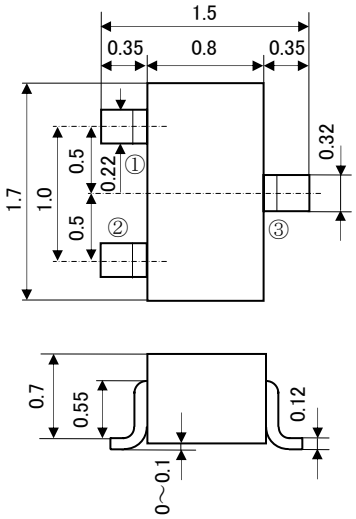
RT1P144C



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

Terminal Connector
①:Base
②:Emitter
③:Collector

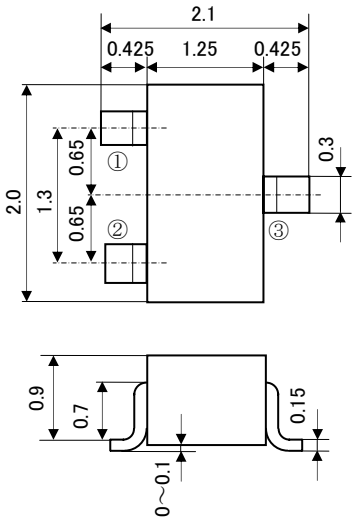
RT1P144U



JEITA : SC-75A
JEDEC : —

Terminal Connector
①:Base
②:Emitter
③:Collector

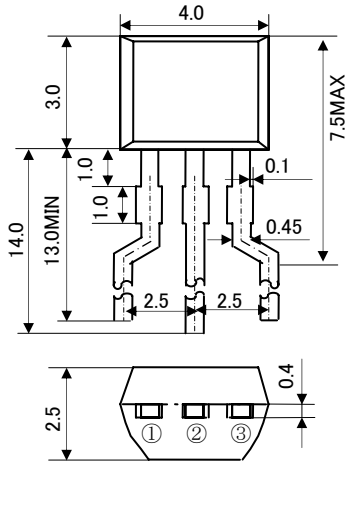
RT1P144M



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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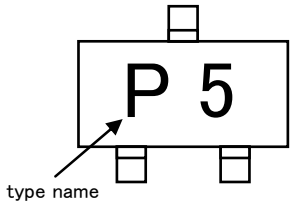
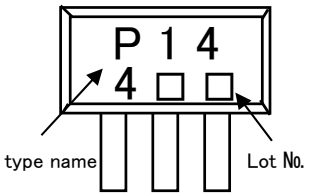
MARKING

RT1P144C RT1P144M RT1P144U	RT1P144S
	

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
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℃)	150	200		450	mW
Tj	Junction temperature	+150				℃
Tstg	Storage temperature	−55～+150				℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E breakdown voltage	I_C=−100μA, R_{BE}=∞	−50	—	—	V
I_{CBO}	Collector cut off current	V_{CB}=−50V, I_E=0	—	—	−0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=−5V, I_C=0	−70	−88	−119	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	—	−1.0	−1.8	V
$V_{I(OFF)}$	Input off voltage	V_{CE}=−5V, I_C=−100μA	−0.4	−0.7	—	V
R_1	Input resistor	—	7	10	13	kΩ
R_2/R_1	Resistor ratio	—	4.2	4.7	5.1	—
f_T	Gain band width product	V_{CE}=−6V, I_E=10mA	—	150	—	MHz

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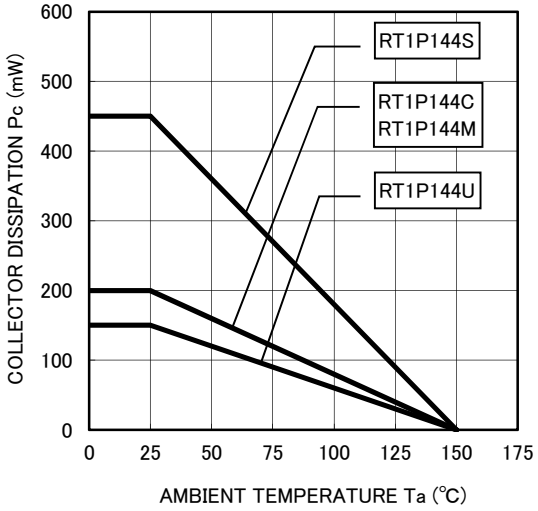
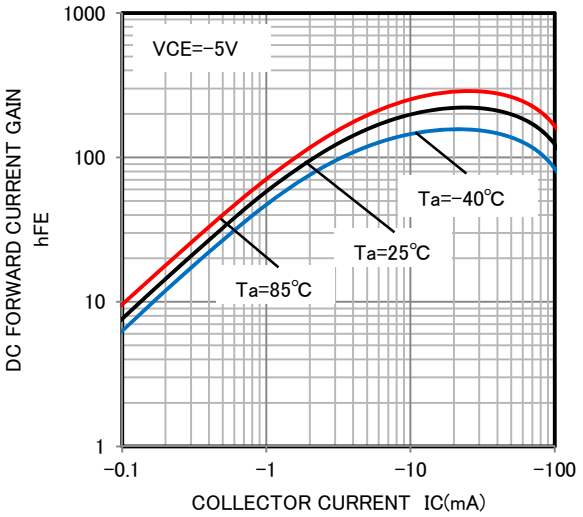
TYPICAL CHARACTERISTICS

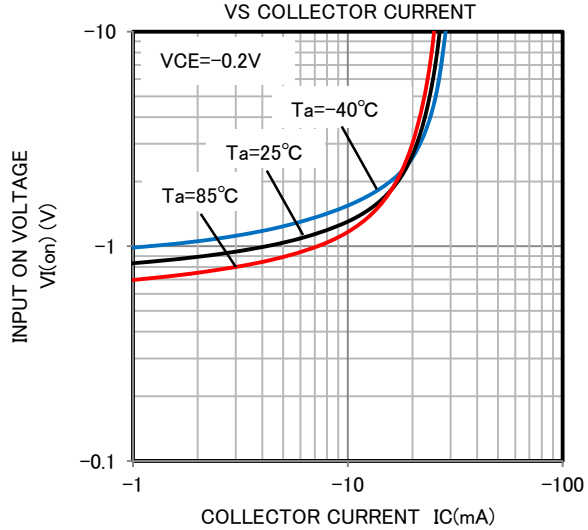
COLLECTOR DISSIPATION VS AMBIENT TEMPERATURE



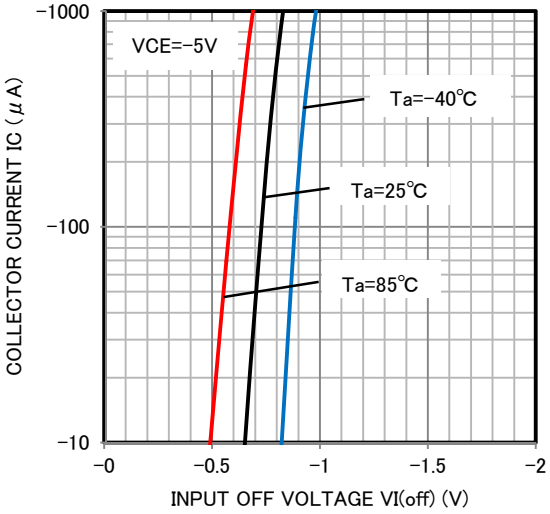
DC FORWARD CURRENT GAIN VS COLLECTOR CURRENT



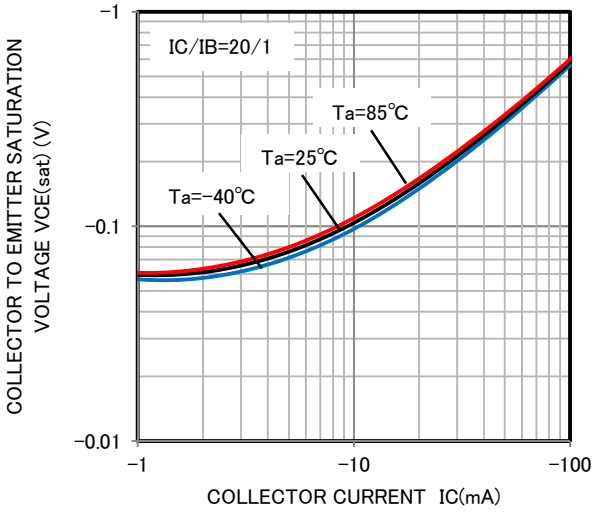
INPUT ON VOLTAGE VS COLLECTOR CURRENT



COLLECTOR CURRENT VS INPUT OFF VOLTAGE



COLLECTOR TO EMITTER SATURATION VOLTAGE VS COLLECTOR CURRENT



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