RT2N12M

Composite Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT2N12M is composite transistor with built-in bias resistor.

FEATURE

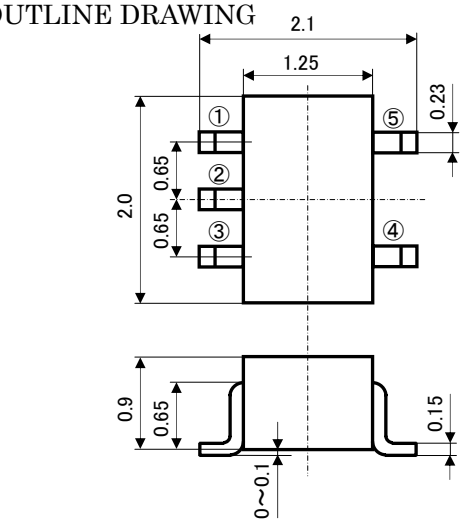
Built-in bias resistor (R1=4.7kΩ, R2=47kΩ)
Mini package for easy mounting

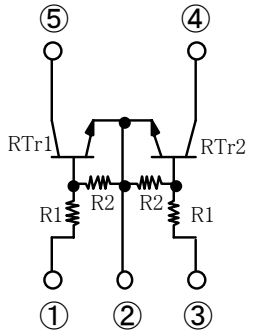
APPLICATION

Inverted circuit, Switching circuit,
Interface circuit, Driver circuit

OUTLINE DRAWING

Unit:mm





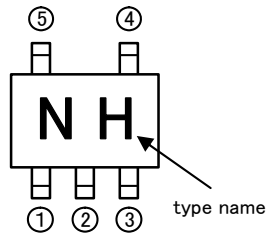
TERMINAL CONNECTOR
①:BASE1
②:EMITTER(COMMON)
③:BASE2
④:COLLECTOR2
⑤:COLLECTOR1

JEITA:SC-88A
JEDEC:−

MAXIMUM RATING(Ta=25℃)(RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	RATING	UNIT
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	30	V
I_C	Collector current	100	mA
I_{CM}	Peak Collector current	200	mA
P_T	Total dissipation	200	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	-55～+150	℃

MARKING



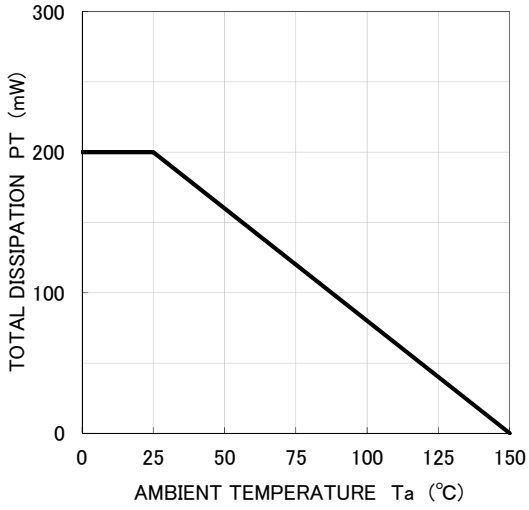
ELECTRICAL CHARACTERISTICS(Ta=25℃)(RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	Collector to Emitter 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	73	97	140	μA
h_{FE}	DC forward current gain	V_{CE}=5V, I_C=10mA	80	−	−	−
$V_{CE(sat)}$	Collector to Emitter 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	−	0.8	1.4	V
$V_{I(OFF)}$	Input off voltage	V_{CE}=5V, I_C=100μA	0.4	0.6	−	V
R_1	Input resistor	−	3.3	4.7	6.1	kΩ
R_2/R_1	Resistor ratio	−	8	10	12	−
f_T	Gain band width product	V_{CE}=6V, I_E=-10mA	−	200	−	MHz

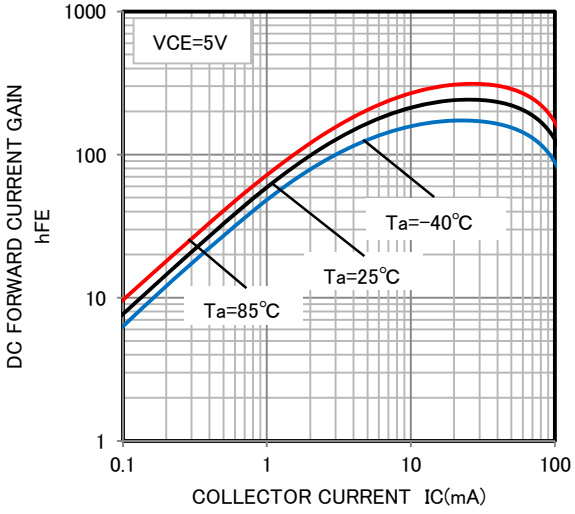
TYPICAL CHARACTERISTICS

(RTr1,RTr2 COMMON)

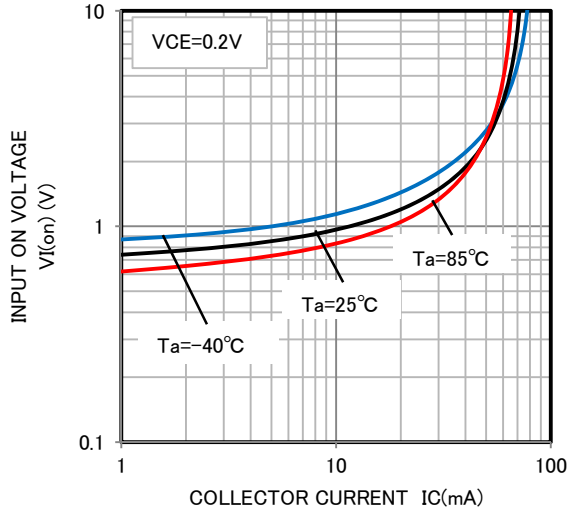
TOTAL DISSIPATION
VS AMBIENT TEMPERATURE



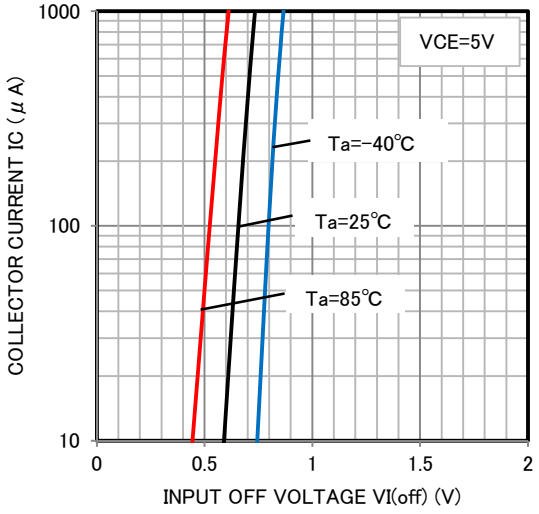
DC FORWARD CURRENT GAIN
VS COLLECTOR CURRENT



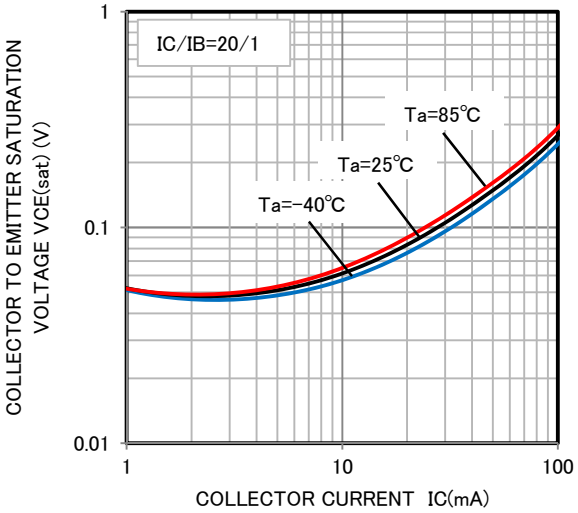
INPUT ON VOLTAGE
VS COLLECTOR CURRENT



COLLECTOR CURRENT
VS INPUT OFF VOLTAGE



COLLECTOR TO EMITTER SATURATION
VOLTAGE VS COLLECTOR CURRENT



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