

RT2N13M

Composite Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT2N13M is composite transistor with built-in bias resistor.

FEATURE

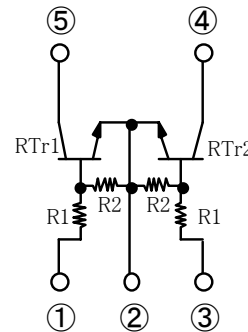
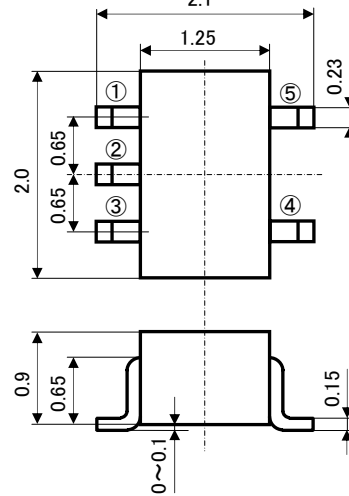
Built-in bias resistor ($R_1=10k\Omega$, $R_2=4.7k\Omega$)
Mini package for easy mounting

APPLICATION

Inverted circuit, Switching circuit,
Interface circuit, Driver circuit

OUTLINE DRAWING

Unit: mm



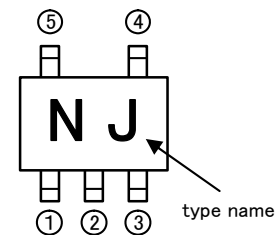
TERMINAL CONNECTOR
①: BASE1
②: EMITTER (COMMON)
③: BASE2
④: COLLECTOR2
⑤: COLLECTOR1

JEITA: SC-88A
JEDEC: -

MAXIMUM RATING ($T_a=25^\circ\text{C}$) (RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	RATING	UNIT
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	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	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+150	$^\circ\text{C}$

MARKING



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$) (RTr1, RTr2 COMMON)

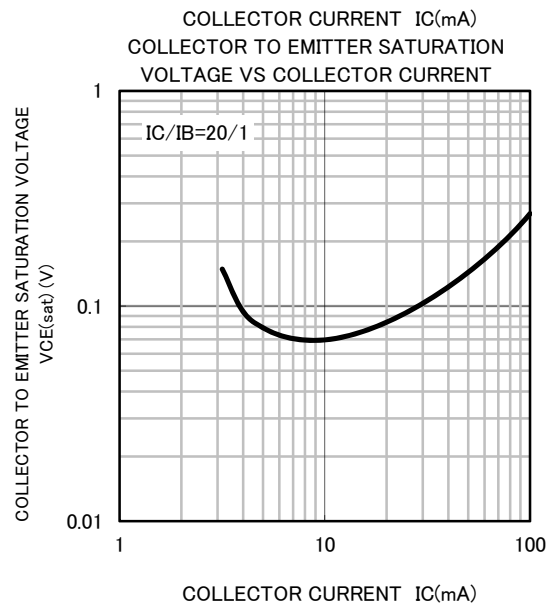
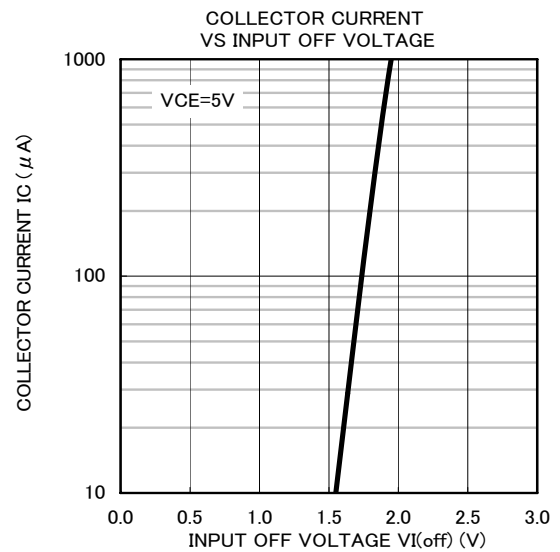
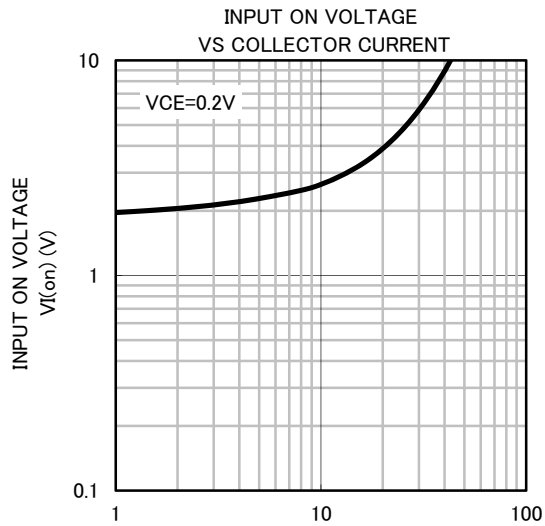
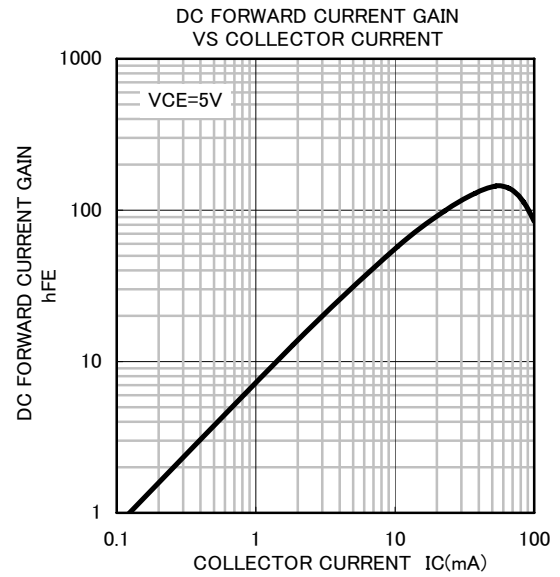
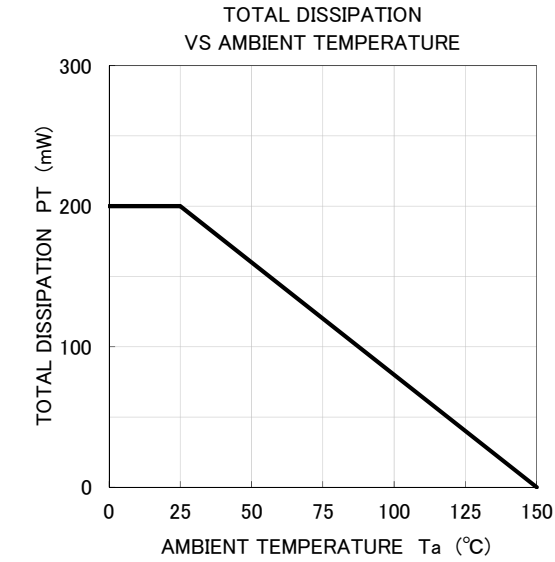
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	Collector to Emitter breakdown voltage	$I_C=100\mu\text{A}$, $R_{BE}=\infty$	50	-	-	V
I_{CBO}	Collector cut off current	$V_{CB}=50\text{V}$, $I_E=0$	-	-	0.1	μA
I_{EBO}	Emitter cut off current	$V_{CE}=5\text{V}$, $I_C=0$	255	340	493	μA
h_{FE}	DC forward current gain	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$	24	-	-	-
$V_{CE(sat)}$	Collector to Emitter saturation voltage	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$	-	-	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2\text{V}$, $I_C=5\text{mA}$	-	2.1	3.8	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$	1.3	1.7	-	V
R_1	Input resistor	-	7	10	13	$k\Omega$
R_2/R_1	Resistor ratio	-	0.37	0.47	0.57	-
f_T	Gain band width product	$V_{CE}=6\text{V}$, $I_E=-10\text{mA}$	-	200	-	MHz

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TYPICAL CHARACTERISTICS

($T_a=25^\circ\text{C}$)(R_{Tr1}, R_{Tr2} COMMON)





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