

# RT2N03M

Composite Transistor With Resistor  
For Switching Application  
Silicon NPN Epitaxial Type

## DESCRIPTION

RT2N03M is composite transistor with built-in bias resistor.

## FEATURE

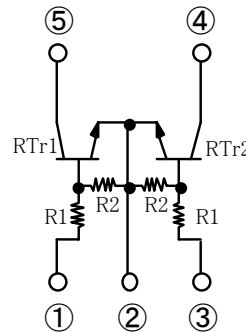
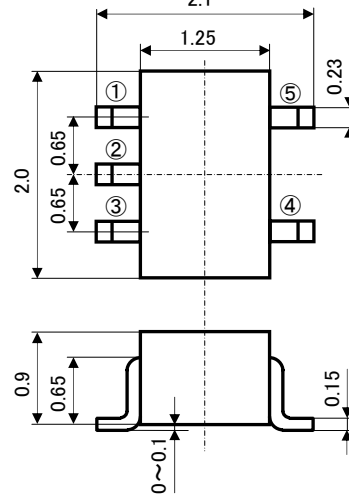
Built-in bias resistor ( $R_1=10k\Omega$ ,  $R_2=10k\Omega$ )  
Mini package for easy mounting

## APPLICATION

Inverted circuit, Switching circuit,  
Interface circuit, Driver circuit

## OUTLINE DRAWING

Unit: mm



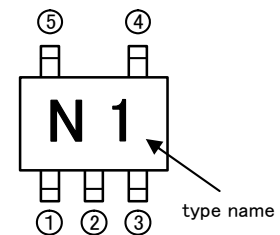
TERMINAL CONNECTOR  
①: BASE1  
②: EMITTER(COMMON)  
③: BASE2  
④: COLLECTOR2  
⑤: COLLECTOR1

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	40	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)

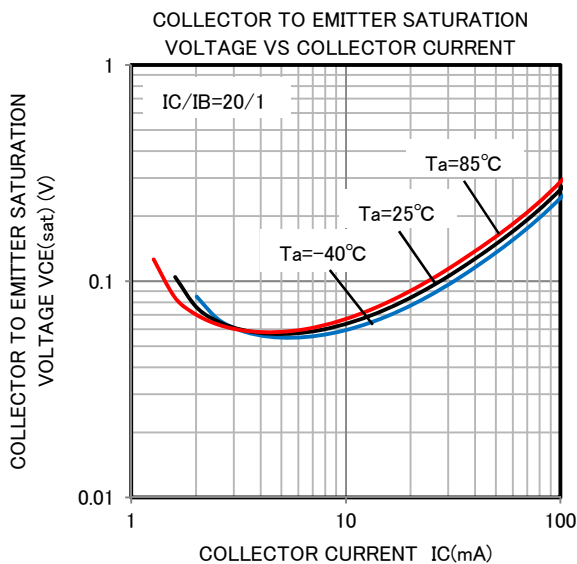
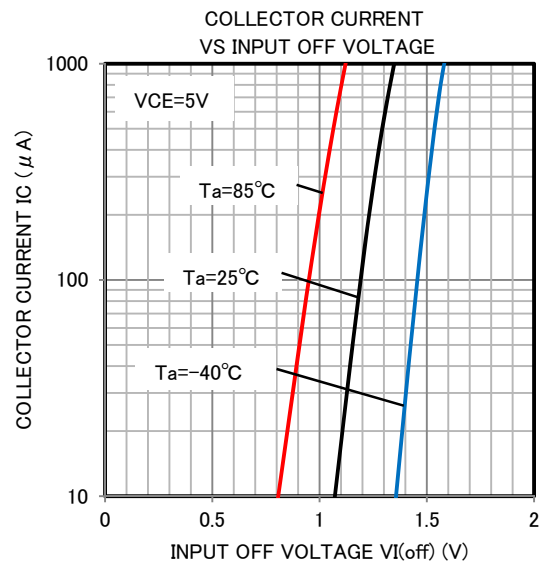
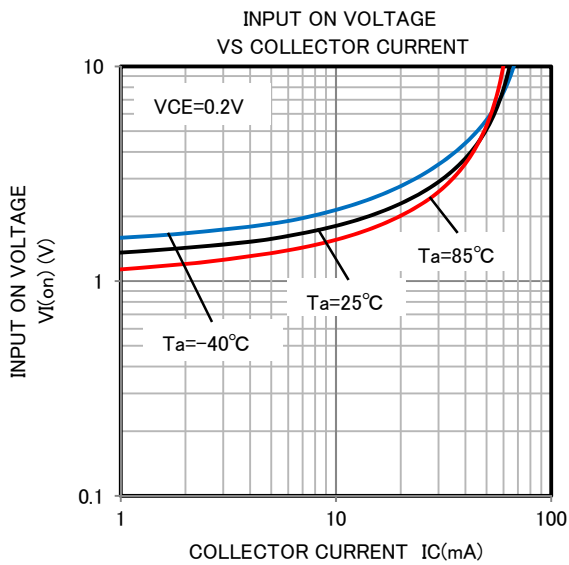
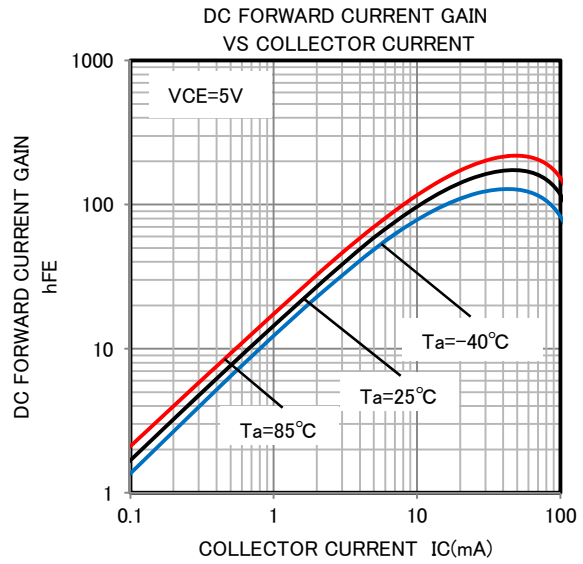
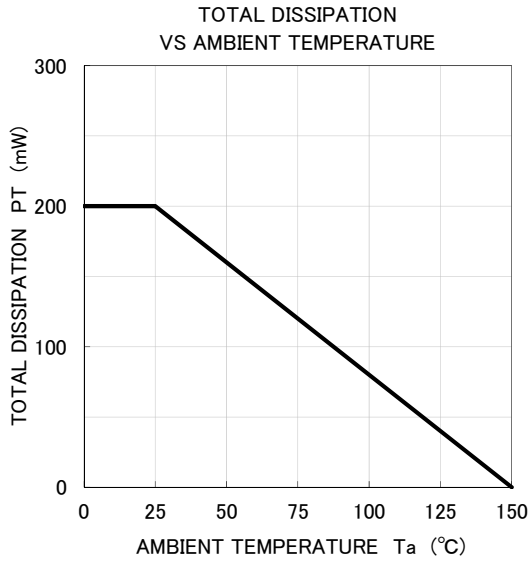
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	Collector to Emitter breakdown voltage	$I_C=100\mu\text{A}$ , $R_{BE}=\infty$	50	-	-	V
$I_{CBO}$	Collector cut off current	$V_{CB}=50\text{V}$ , $I_E=0$	-	-	0.1	$\mu\text{A}$
$I_{EBO}$	Emitter cut off current	$V_{CB}=5\text{V}$ , $I_C=0$	192	250	357	$\mu\text{A}$
$h_{FE}$	DC forward current gain	$V_{CE}=5\text{V}$ , $I_C=10\text{mA}$	50	-	-	-
$V_{CE(sat)}$	Collector to Emitter saturation voltage	$I_C=10\text{mA}$ , $I_B=0.5\text{mA}$	-	0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2\text{V}$ , $I_C=5\text{mA}$	-	1.5	3.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5\text{V}$ , $I_C=100\mu\text{A}$	0.8	1.1	-	V
$R_1$	Input resistor	-	7	10	13	$k\Omega$
$R_2/R_1$	Resistor ratio	-	0.9	1.0	1.1	-
$f_T$	Gain band width product	$V_{CE}=6\text{V}$ , $I_E=-10\text{mA}$	-	200	-	MHz

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## TYPICAL CHARACTERISTICS

(RTr1, RTr2 COMMON)





**Keep safety first in your circuit designs!**

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