

# RT2N05M-T150

Composite Transistor With Resistor  
For Switching Application  
Silicon NPN Epitaxial Type

AEC-Q101 Compliance

## DESCRIPTION

RT2N05M is composite transistor with built-in bias resistor.

## FEATURE

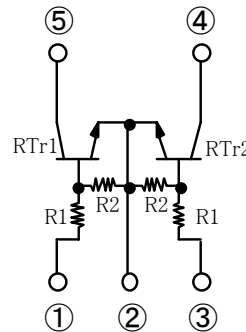
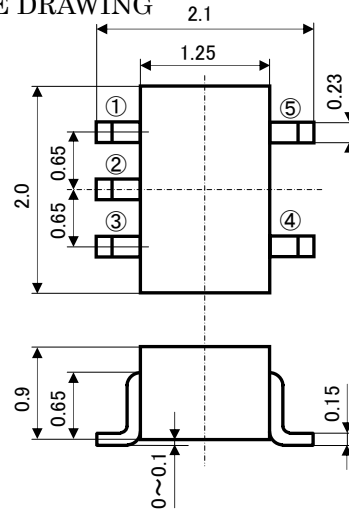
Built-in bias resistor (R1=47k $\Omega$ , R2=47k $\Omega$ )  
Mini package for easy mounting

## APPLICATION

Inverted circuit, Switching circuit,  
Interface circuit, Driver circuit

## OUTLINE DRAWING

Unit: mm



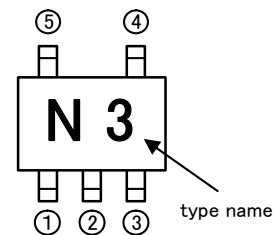
TERMINAL CONNECTOR  
①: BASE1  
②: EMITTER(COMMON)  
③: BASE2  
④: COLLECTOR2  
⑤: COLLECTOR1

JEITA: SC-88A  
JEDEC: -

## MAXIMUM RATING(T<sub>a</sub>=25°C)(RTr1, RTr2 COMMON)

SYMBOL	PARAMETER	RATING	UNIT
V <sub>CB0</sub>	Collector to Base voltage	50	V
V <sub>EBO</sub>	Emitter to Base voltage	10	V
V <sub>CEO</sub>	Collector to Emitter voltage	50	V
V <sub>IN</sub>	Input voltage	40	V
I <sub>C</sub>	Collector current	100	mA
I <sub>CM</sub>	Peak Collector current	200	mA
P <sub>T</sub>	Total dissipation	200	mW
T <sub>j</sub>	Junction temperature	+150	°C
T <sub>stg</sub>	Storage temperature	-55~+150	°C

## MARKING



## ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C)(RTr1, RTr2 COMMON)

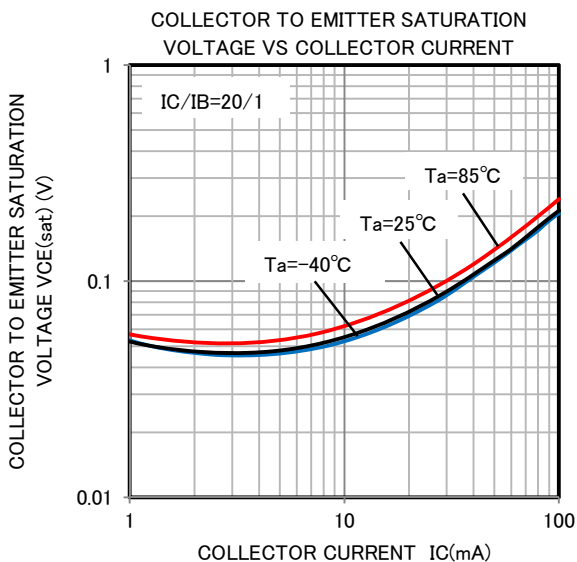
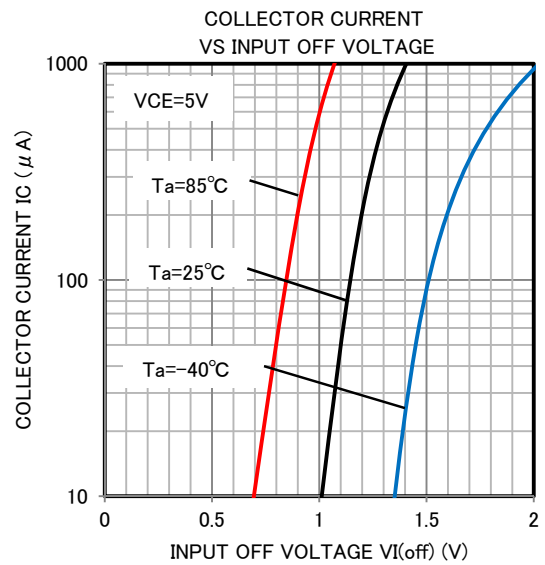
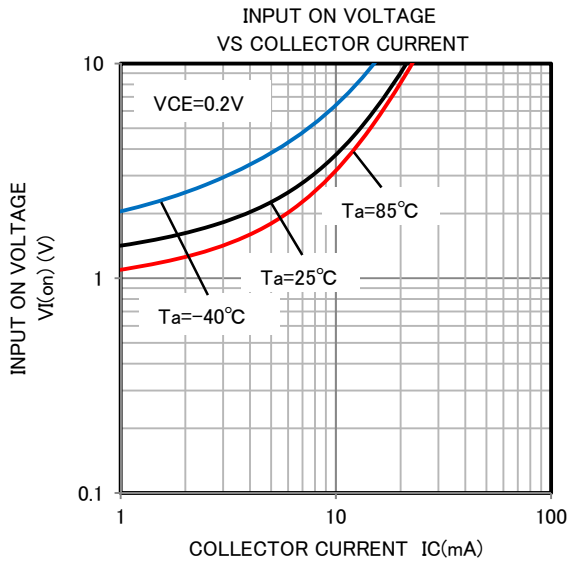
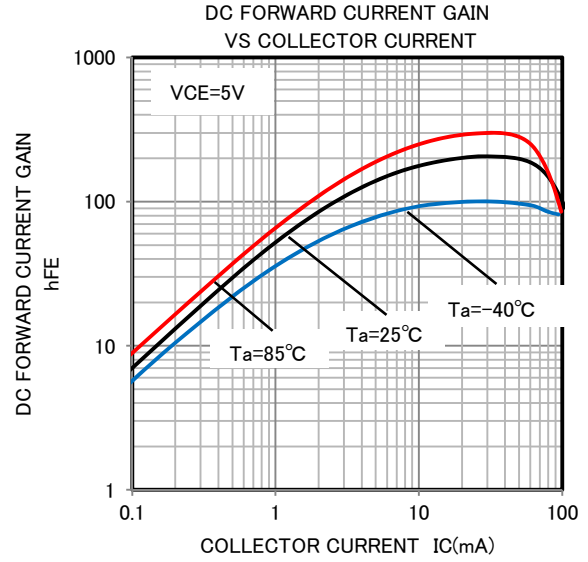
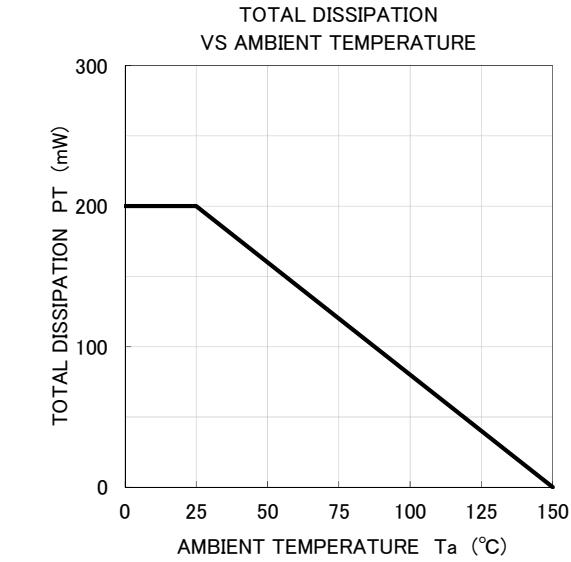
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
V <sub>(BR)CEO</sub>	Collector to Emitter breakdown voltage	I <sub>C</sub> =100 $\mu$ A, R <sub>BE</sub> = $\infty$	50	-	-	V
I <sub>CBO</sub>	Collector cut off current	V <sub>CB</sub> =50V, I <sub>E</sub> =0	-	-	0.1	$\mu$ A
I <sub>EBO</sub>	Emitter cut off current	V <sub>EB</sub> =5V, I <sub>C</sub> =0	41	53	76	$\mu$ A
h <sub>FE</sub>	DC forward current gain	V <sub>CE</sub> =5V, I <sub>C</sub> =5mA	50	-	-	-
V <sub>CE(sat)</sub>	Collector to Emitter saturation voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA	-	-	0.3	V
V <sub>I(ON)</sub>	Input on voltage	V <sub>CE</sub> =0.2V, I <sub>C</sub> =5mA	-	2.2	5.0	V
V <sub>I(OFF)</sub>	Input off voltage	V <sub>CE</sub> =5V, I <sub>C</sub> =100 $\mu$ A	0.8	1.1	-	V
R <sub>1</sub>	Input resistor	-	33	47	61	k $\Omega$
R <sub>2</sub> /R <sub>1</sub>	Resistor ratio	-	0.9	1.0	1.1	-
f <sub>T</sub>	Gain band width product	V <sub>CE</sub> =6V, I <sub>E</sub> =-10mA	-	200	-	MHz

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## TYPICAL CHARACTERISTICS

(RT<sub>r1</sub>, RT<sub>r2</sub> COMMON)





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