

RT2N09M

COMPOSITE TRANSISTOR WITH RESISTOR
FOR SWITCHING APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

RT2N09M is a composite transistor with built-in bias resistor

FEATURE

Built-in bias resistor (R1=2.2 K , R2=47K)

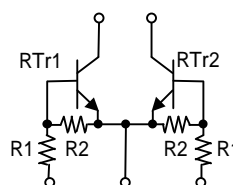
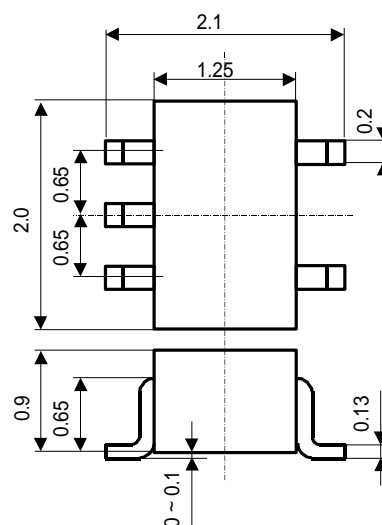
Mini package for easy mounting

APPLICATION

Inverted circuit , switching circuit , interface circuit , driver circuit

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

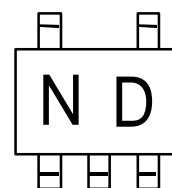
- : BASE 1
- : EMITTER (COMMON)
- : BASE 2
- : COLLECTOR 2
- : COLLECTOR 1

JEITA: -
JEDEC: -

MAXIMUM RATINGS (Ta=25 °C)(RTr1, RTr2)

Symbol	Parameter	Ratings	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
I _C	Collector current	100	mA
I _{CM}	Peak Collector current	200	mA
P _C	Collector dissipation (Total Ta=25 °C)	150	mW
T _j	Junction temperature	+ 150	
T _{stg}	Storage temperature	-55 ~ + 150	

MARKING



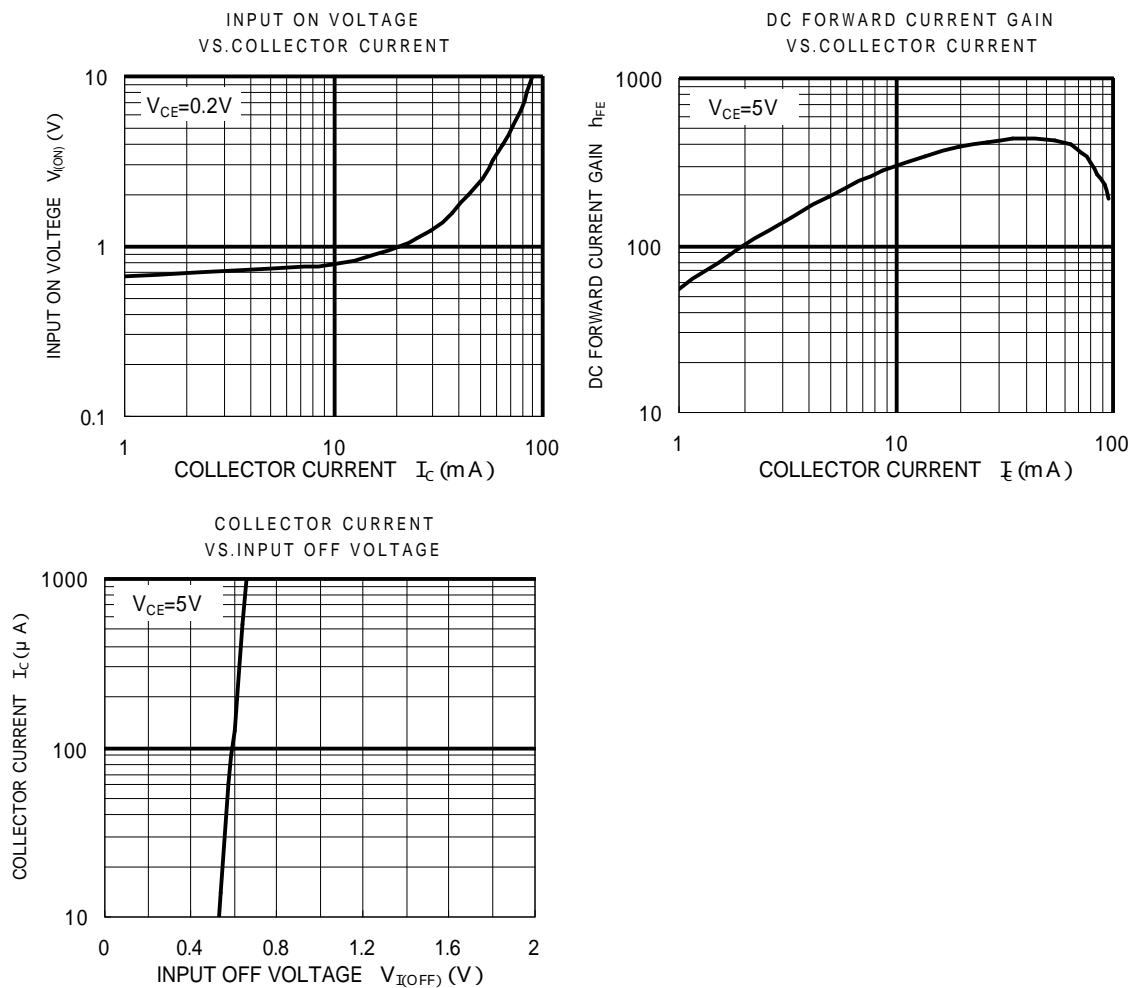
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ELECTRICAL CHARACTERISTICS (Ta=25 °C)(RT1, RT2)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	Collector to Emitter break down voltage	$I_C=100 \mu A, R_{BE}=\infty$	50	-	-	V
I_{CBO}	Collector cut off current	$V_{CB}=50V, I_E=0mA$	-	-	0.1	μA
h_{FE}	DC forward current gain	$V_{CE}=5V, I_C=10mA$	80	-	-	-
$V_{CE(sat)}$	Collector to Emitter saturation voltage	$I_C=10mA, I_B=0.5mA$	-	0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V, I_C=5mA$	-	0.7	1.1	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V, I_C=100 \mu A$	0.5	0.6	-	V
R_1	Input resistor		1.5	2.2	2.9	K
R_2/R_1	Resistor ratio			22		-
f_T	Gain band width product	$V_{CE}=6V, I_E=-10mA$	-	200	-	MHz

TYPICAL CHARACTERISTICS (Tr1, Tr2)





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