

# RT2N05M

COMPOSITE TRANSISTOR WITH RESISTOR  
FOR SWITCHING APPLICATION  
SILICON NPN EPITAXIAL TYPE

## DESCRIPTION

RT2N05M is a composite transistor with built-in bias resistor

## FEATURE

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

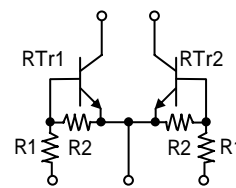
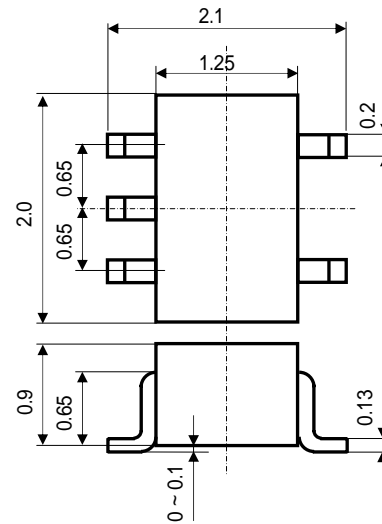
Mini package for easy mounting

## 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

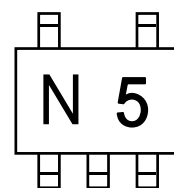
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## MAXIMUM RATINGS (Ta=25 ) (RTr1, RTr2)

Symbol	Parameter	Ratings	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
$I_C$	Collector current	100	mA
$I_{CM}$	Peak Collector current	200	mA
$P_C$	Collector dissipation (Total Ta=25 )	150	mW
$T_j$	Junction temperature	+ 150	
$T_{stg}$	Storage temperature	-55 ~ + 150	

## MARKING



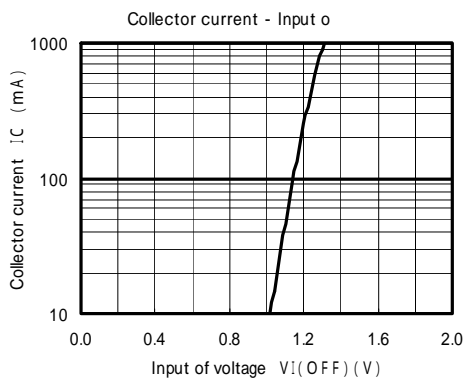
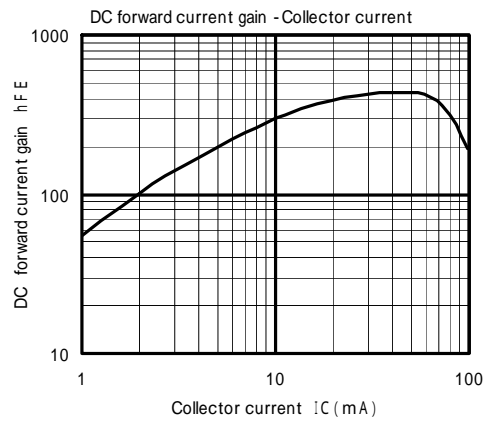
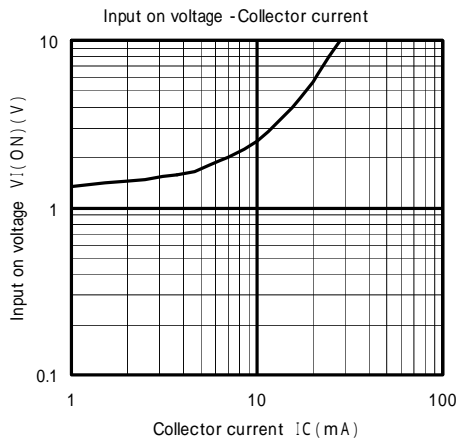
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## ELECTRICAL CHARACTERISTICS (Ta=25 °C) (RT1, RT2)

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	$\mu A$
$h_{FE}$	DC forward current gain	$V_{CE}=5V, I_C=5mA$	50	-	-	-
$V_{CE(sat)}$	Collector to Emitter saturation voltage	$I_C=10mA, I_B=0.5mA$	-	0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2V, I_C=5mA$	-	2.2	5.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5V, I_C=100 \mu A$	0.8	1.1	-	V
$R_1$	Input resistor		33	47	61	K
$R_2/R_1$	Resistor ratio		0.9	1.0	1.1	-
$f_T$	Gain band width product	$V_{CE}=6V, I_E=-10mA$	-	200	-	MHz

## TYPICAL CHARACTERISTICS (Tr1, Tr2)





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