

# RT3T33M

Composite Transistor With Resistor  
For Switching Application  
Silicon Epitaxial Type

## DESCRIPTION

RT3T33M is a composite transistor built with RT1N441 chip and RT1P441 chip in SC-88 package.

## FEATURE

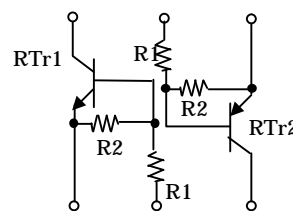
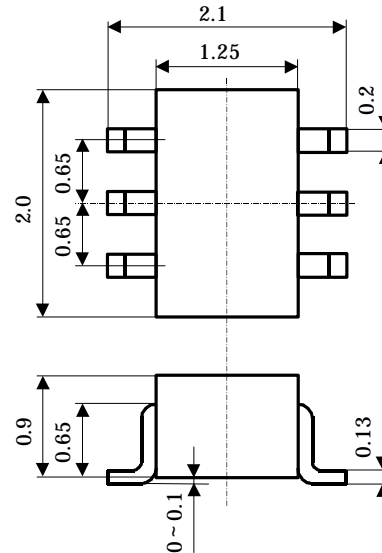
- Silicon epitaxial type
- Each transistor elements are independent.
- Mini package for easy mounting

## APPLICATION

- Inverted circuit, switching circuit,
- interface circuit, driver circuit

## OUTLINE DRAWING

Unit: mm



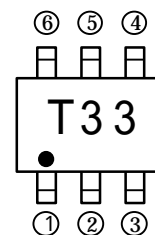
TERMINAL CONNECTOR  
: EMITTER1  
: BASE1  
: COLLECTOR2  
: EMITTER2  
: BASE2  
: COLLECTOR1

JEITA: SC-88

## MAXIMUM RATING (Ta=25 )

SYMBOL	PARAMETER	RATING	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 )	150	mW
$T_j$	Junction temperature	+ 150	
$T_{stg}$	Storage temperature	-55 ~ + 150	

## MARKING



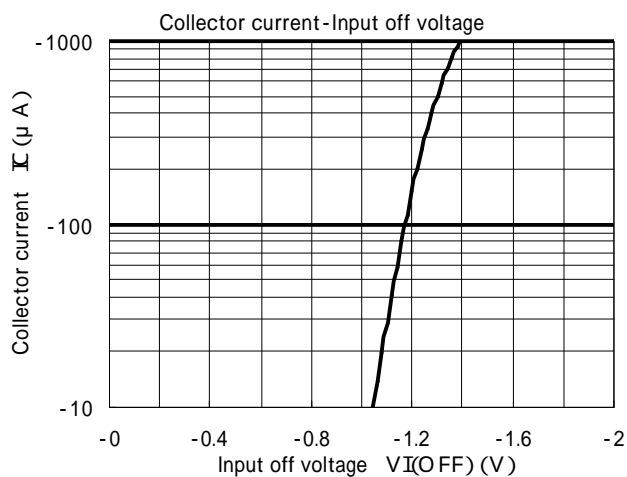
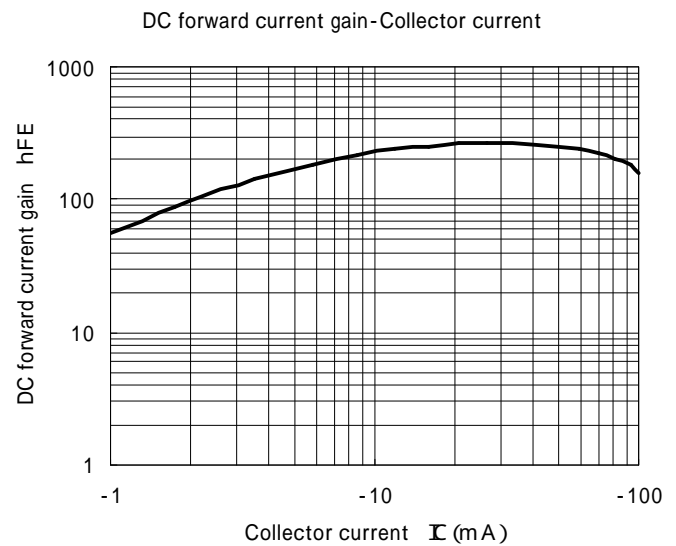
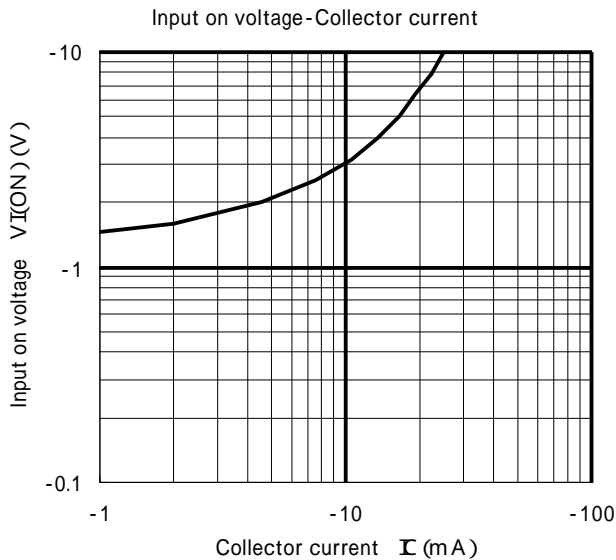
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## ELECTRICAL CHARACTERISTICS (Ta=25 )

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	Collector to Emitter break down voltage	$I_C=100 \mu A, R_{BE}=-$	50	-	-	V
$I_{CBO}$	Collector cut off current	$V_{CB}=50V, I_E=0$	-	-	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	$I_C=10mA, I_B=5mA$	-	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	$V_{CE}=6V, I_E=-10mA$	-	150	-	MHz

### TYPICAL CHARACTERISTICS





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