RT3T33M

Composite Transistor With Resistor
For Switching Application
Silicon Epitaxial Type

DESCRIPTION

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

FEATURE

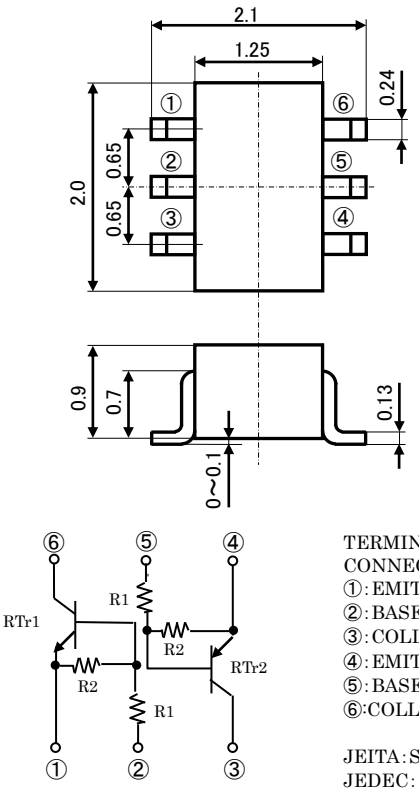
Built-in bias resistor (R1=47kΩ, R2=47kΩ)
Mini package for easy mounting

APPLICATION

Inverted circuit, Switching circuit,
Interface circuit, Driver circuit

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR
①:EMITTER1
②:BASE1
③:COLLECTOR2
④:EMITTER2
⑤:BASE2
⑥:COLLECTOR1

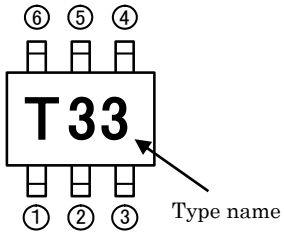
JEITA:SC-88
JEDEC:－

MAXIMUM RATING (Ta=25℃) (RTr1_NPN, RTr2_PNP)

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	℃
T_{stg}	Storage temperature	-55～+150	℃

※PNP built in transistor of"－"sign is abbreviation.

MARKING

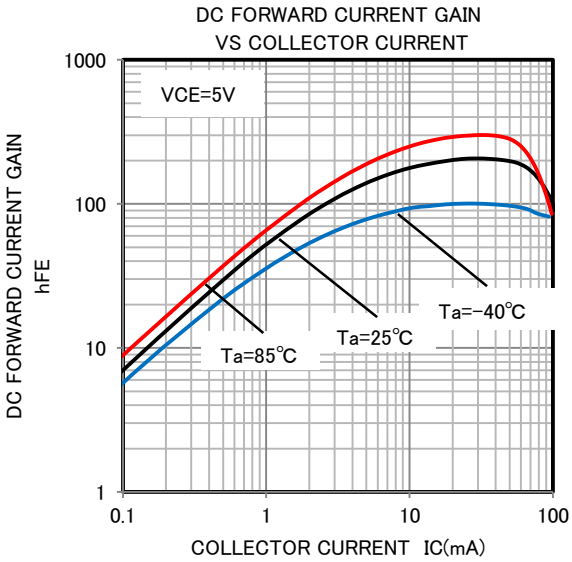


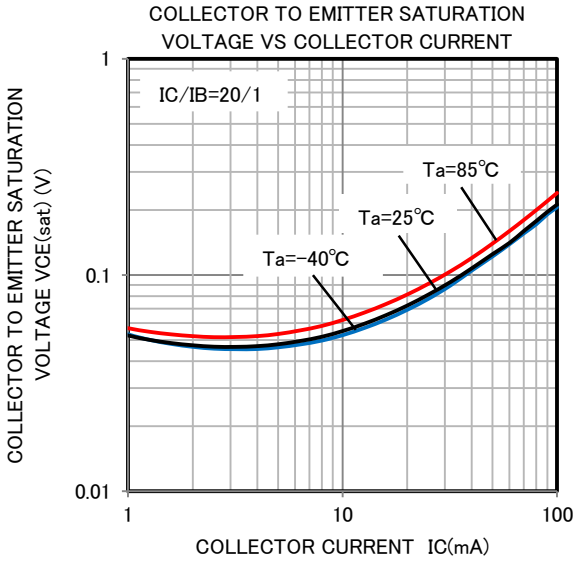
ELECTRICAL CHARACTERISTICS (Ta=25℃) (RTr1_NPN, RTr2_PNP)

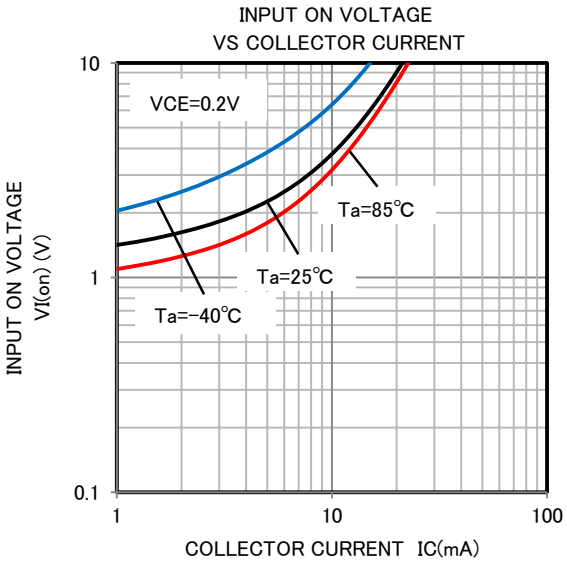
Symbol	Parameter	Test conditions		Limits			Unit
				Min	Typ	Max	
$V_{(BR)CEO}$	Collector to Emitter breakdown voltage	I_C=100μA, R_{BE}=∞		50	－	－	V
I_{CBO}	Collector cut off current	V_{CB}=50V, I_E=0		－	－	0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=5V, I_C=0		41	53	76	μA
h_{FE}	DC forward current gain	V_{CE}=5V, I_C=5mA		50	－	－	－
$V_{CE(sat)}$	Collector to Emitter saturation voltage	I_C=10mA, I_B=0.5mA		－	－	0.3	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=100μA		0.8	1.1	－	V
R_1	Input resistor	－		33	47	61	kΩ
R_2/R_1	Resistor ratio	－		0.9	1.0	1.1	－
f_T	Gain band width product	V_{CE}=6V, I_E=10mA	RTr1	－	200	－	MHz
			RTr2	－	150	－	

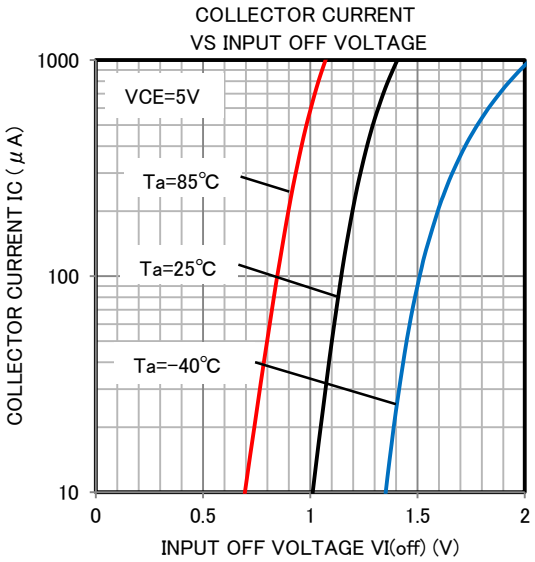
※PNP built in transistor of"－"sign is abbreviation.

TYPICAL CHARACTERISTICS (RTr1_NPN)



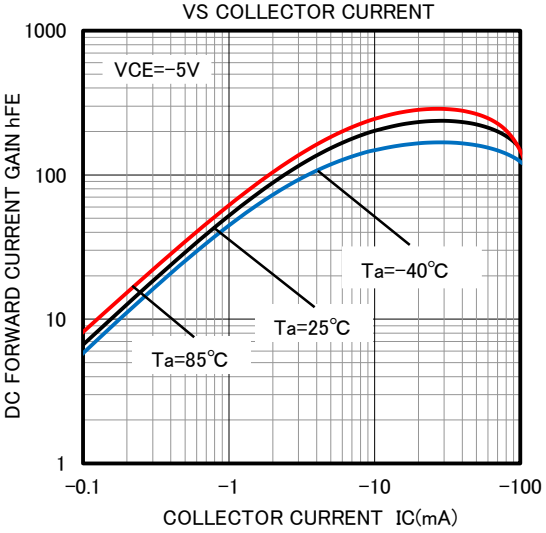




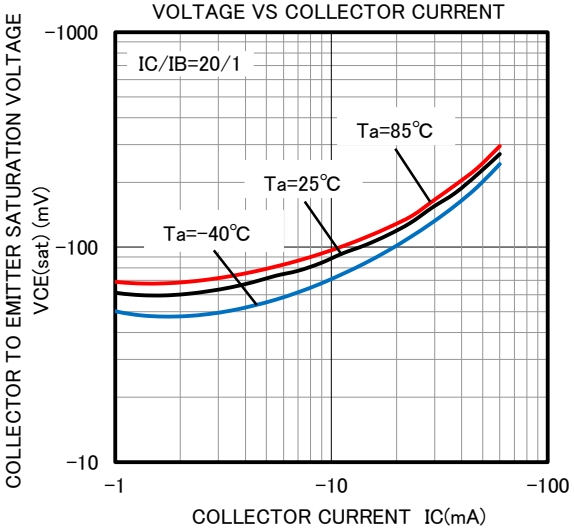


TYPICAL CHARACTERISTICS (RTr 2_PNP)

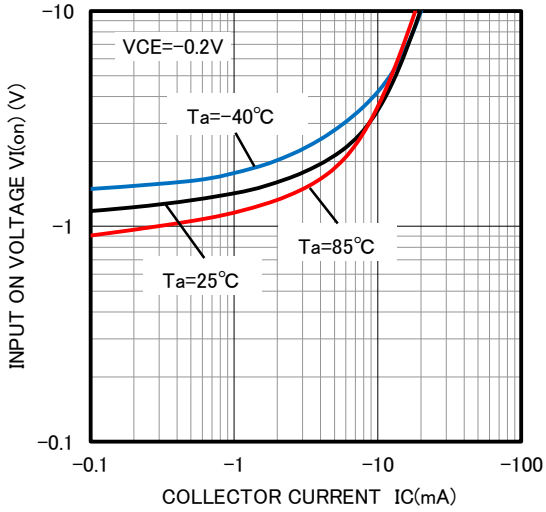
DC FORWARD CURRENT GAIN
VS COLLECTOR CURRENT



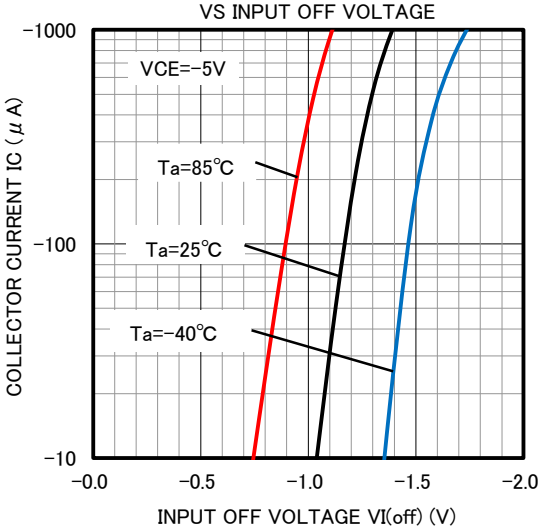
COLLECTOR TO EMITTER SATURATION
VOLTAGE VS COLLECTOR CURRENT



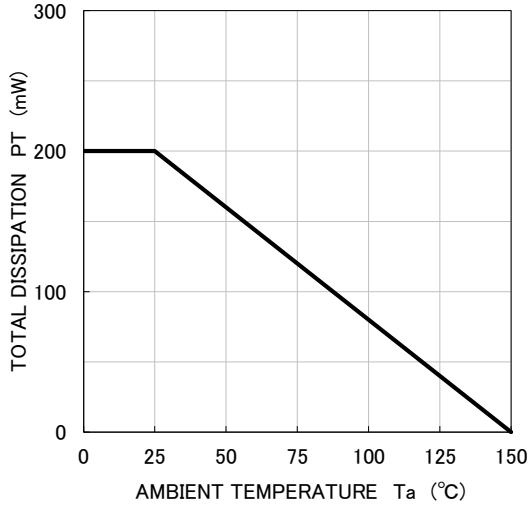
INPUT ON VOLTAGE
VS COLLECTOR CURRENT



COLLECTOR CURRENT
VS INPUT OFF VOLTAGE



TOTAL DISSIPATION
VS AMBIENT TEMPERATURE



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