RT5N333C

Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT5N333C is a one chip transistor with built-in bias resistor, PNP type is RT5P333C.

FEATURE

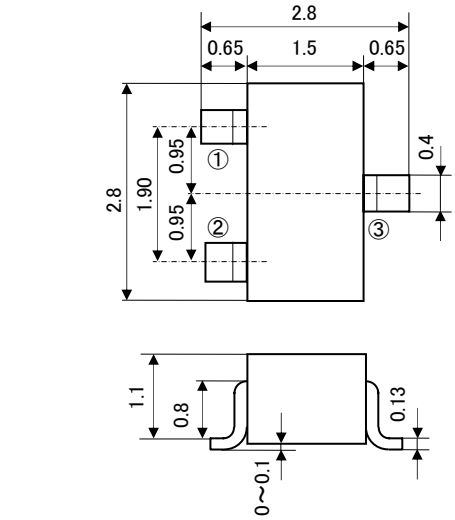
Built-in bias resistor （R_1=3.3kΩ, R_2=10kΩ）
High collector current （Ic=0.5A）
Mini package for easy mounting

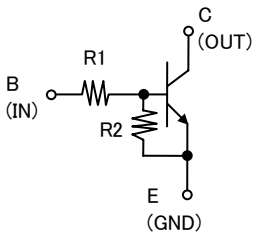
APPLICATION

Inverted circuit, Switching circuit, Interface circuit, Driver circuit

OUTLINE DRAWING

Unit: mm



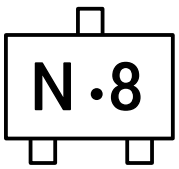


JEITA：SC-59
JEDEC：Similar to TO-236
Terminal Connector
①：BASE
②：EMITTER
③：COLLECTOR

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_{IN}	Input voltage	20	V
V_{CEO}	Collector to Emitter voltage	50	V
I_C	Collector current	500	mA
P_C	Collector dissipation(Ta=25℃)	200	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	-55～+150	℃

MARKING

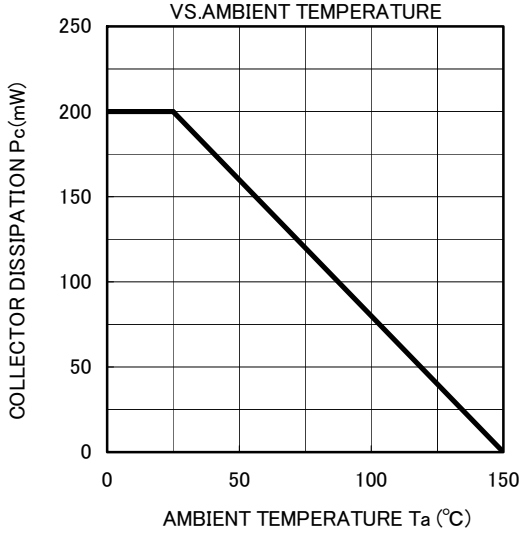


ELECTRICAL CHARACTERISTICS (Ta=25℃)

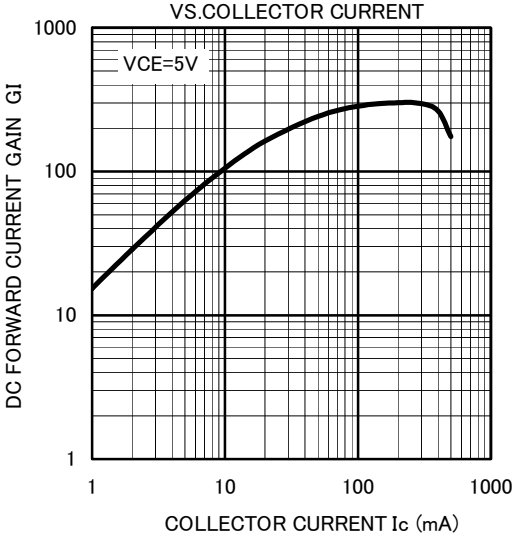
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{I(on)}$	Input on voltage	V_{CE}=0.3V, I_C=20mA	—	—	2	V
$V_{I(off)}$	Input off voltage	V_{CE}=5V, I_C=100μA	0.3	—	—	V
$V_{CE(sat)}$	C to E saturation voltage	I_C=50mA, I_B=2.5mA	—	0.1	0.3	V
I_{BE}	B to E current	V_{BE}=5V	—	—	2.4	mA
I_{CES}	Collector cut off current	V_{CE}=50V, V_{BE}=0V	—	—	0.5	μA
G_I	DC forward current gain	V_{CE}=5V, I_C=50mA	56	—	—	—
R_1	Input resistor	—	2.31	3.3	4.29	kΩ
R_2/R_1	Resistor ratio	—	2.4	3.0	3.7	—
f_T	Gain band width product	V_{CE}=10V, I_E=-5mA, f=100MHz	—	200	—	MHz

TYPICAL CHARACTERISTICS(Ta=25℃)

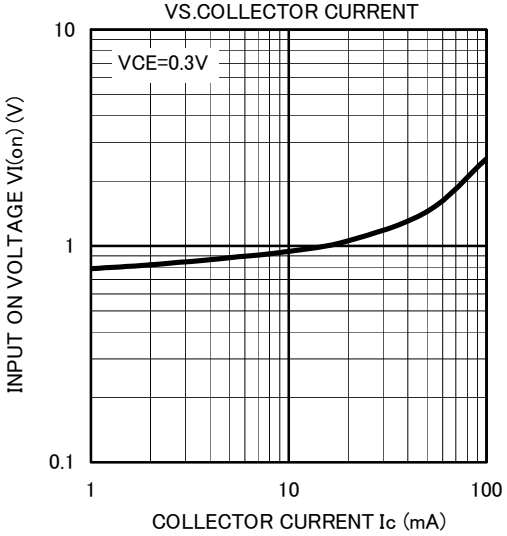
COLLECTOR DISSIPATION
VS.AMBIENT TEMPERATURE



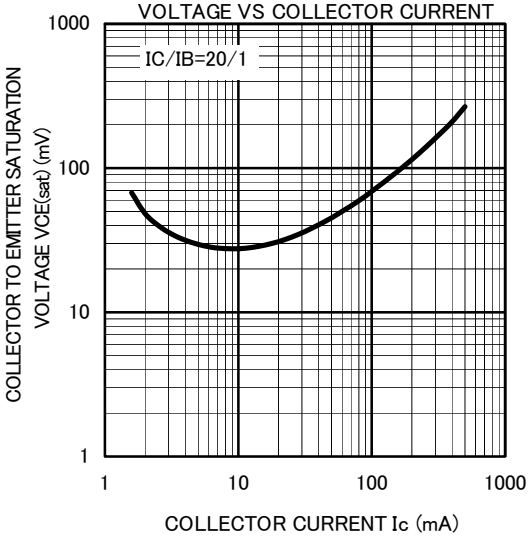
DC FORWARD CURRENT GAIN
VS.COLLECTOR CURRENT



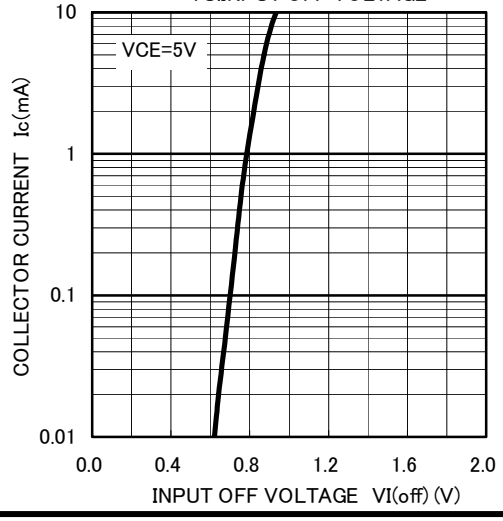
INPUT ON VOLTAGE
VS.COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION
VOLTAGE VS COLLECTOR CURRENT



COLLECTOR CURRENT
VS.INPUT OFF VOLTAGE



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