RT1N441U-T150

Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

AEC-Q101 Compliance

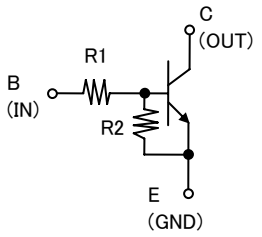
FEATURE

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

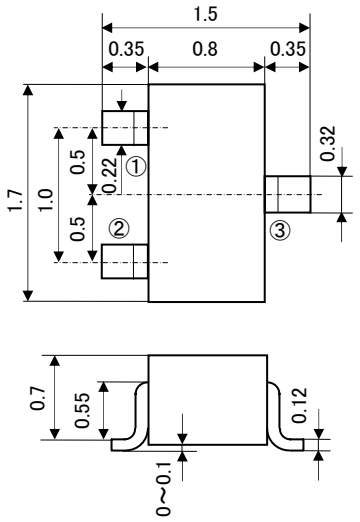
APPLICATION

Inverted circuit, switching circuit, interface circuit, driver circuit.

Equivalent circuit



OUTLINE DRAWING UNIT:mm



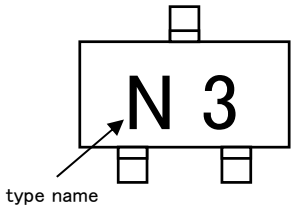
Terminal Connector
①:Base
②:Emitter
③:Collector

JEITA:SC-75A
JEDEC:—

MAXIMUM RATING(Ta=25℃)

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_C	Collector dissipation	150	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

MARKING

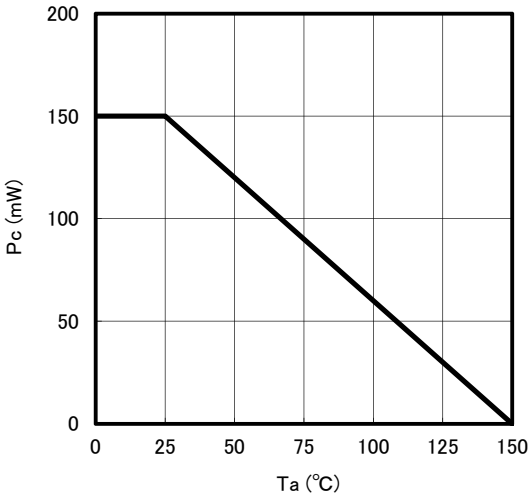


ELECTRICAL CHARACTERISTICS(Ta=25℃)

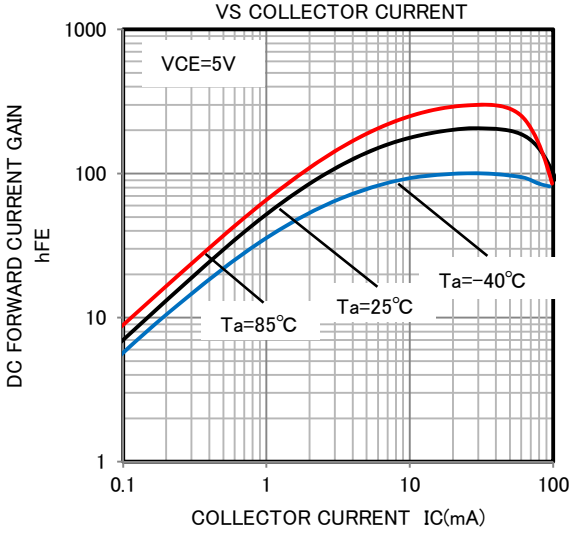
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E breakdown voltage	I_C=100μA、R_{BE}=∞	50	—	—	V
I_{CBO}	Collector cut off current	V_{CB}=50V、I_E=0	—	—	0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=5V、I_C=0	41	53	76	μA
h_{FE}	DC forward current gain	V_{CE}=5V、I_C=5mA	50	—	—	—
$V_{CE(sat)}$	C to E 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=100μA	0.8	1.1	—	V
R1	Input resistor	−	33	47	61	kΩ
R2/R1	Resistor ratio	−	0.9	1.0	1.1	—
f_T	Gain band width product	V_{CE}=6V、I_E=−10mA	—	200	—	MHz

TYPICAL CHARACTERISTICS

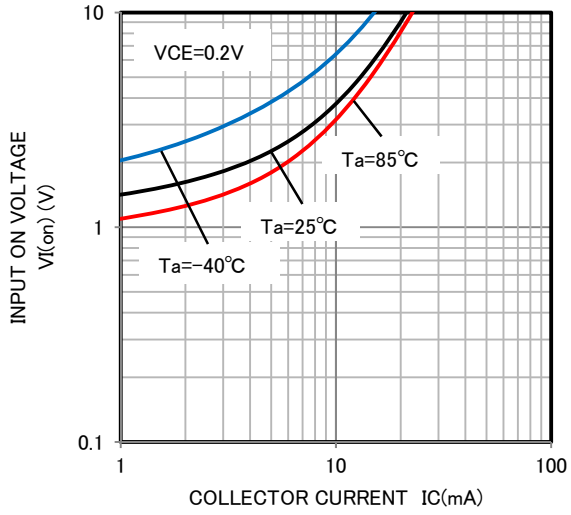
Pc-Ta



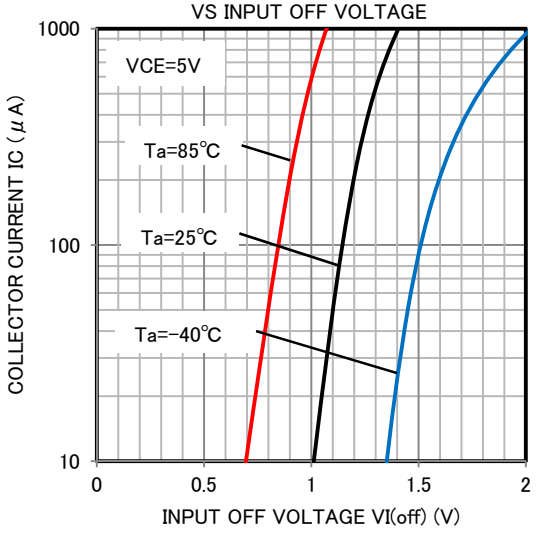
DC FORWARD CURRENT GAIN
VS COLLECTOR CURRENT



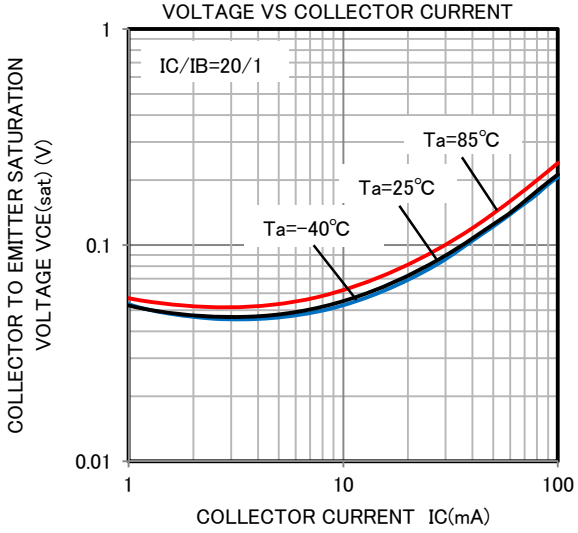
INPUT ON VOLTAGE
VS COLLECTOR CURRENT



COLLECTOR CURRENT
VS INPUT OFF VOLTAGE



COLLECTOR TO EMITTER SATURATION
VOLTAGE VS COLLECTOR CURRENT



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