

RT1N441U-T150

Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

AEC-Q101 Compliance

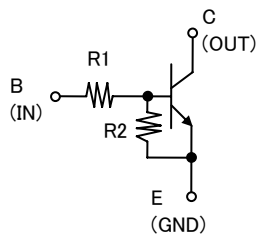
FEATURE

- Built-in bias resistor ($R1=47k\Omega$, $R2=47k\Omega$)
- Mini package for easy mounting

APPLICATION

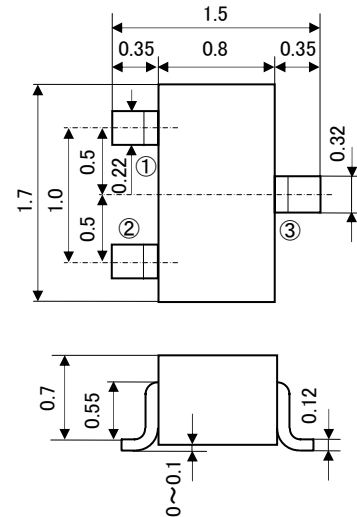
Inverted circuit, switching circuit, interface circuit, driver circuit.

Equivalent circuit



OUTLINE DRAWING

UNIT : mm



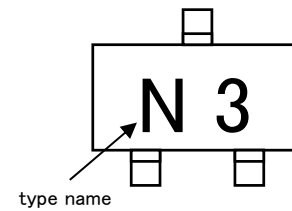
Terminal
Connector

- ①: Base JEITA: SC-75A
②: Emitter JEDEC: —
③: Collector

MAXIMUM RATING ($T_a=25^\circ\text{C}$)

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	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+150	$^\circ\text{C}$

MARKING



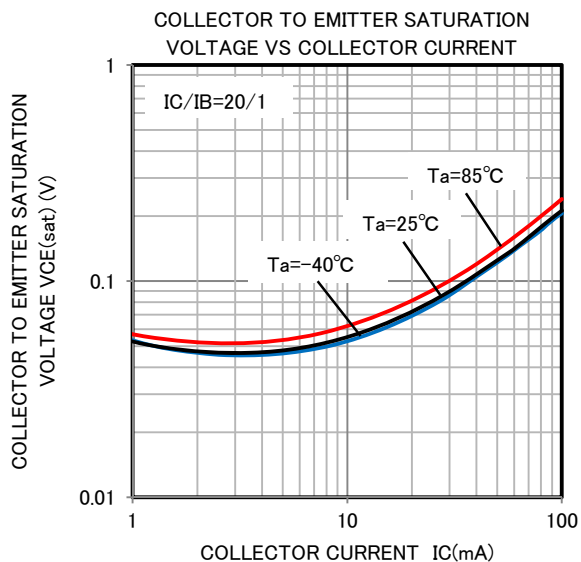
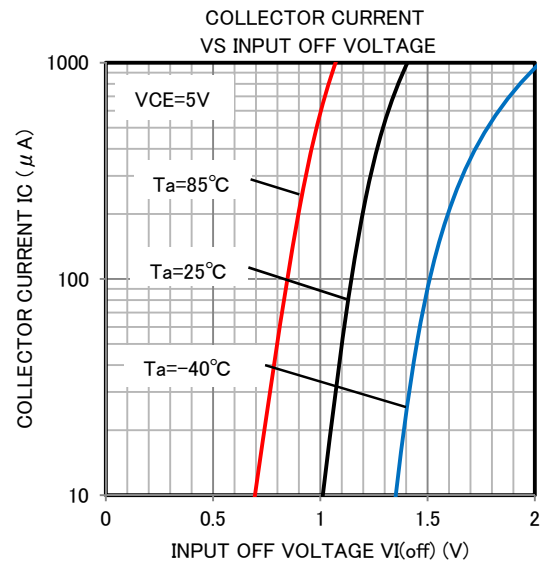
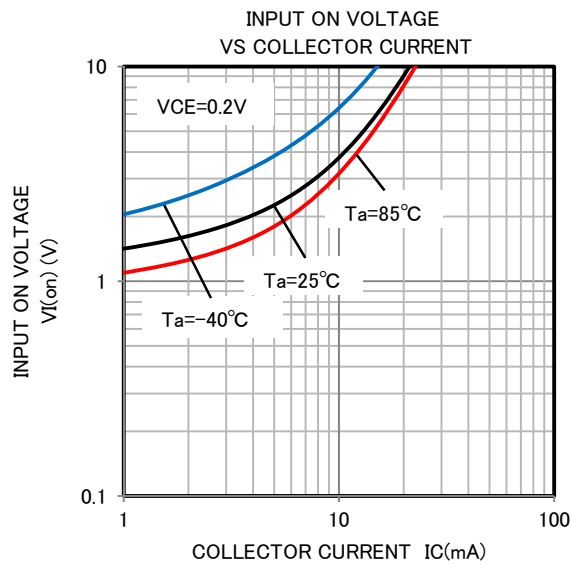
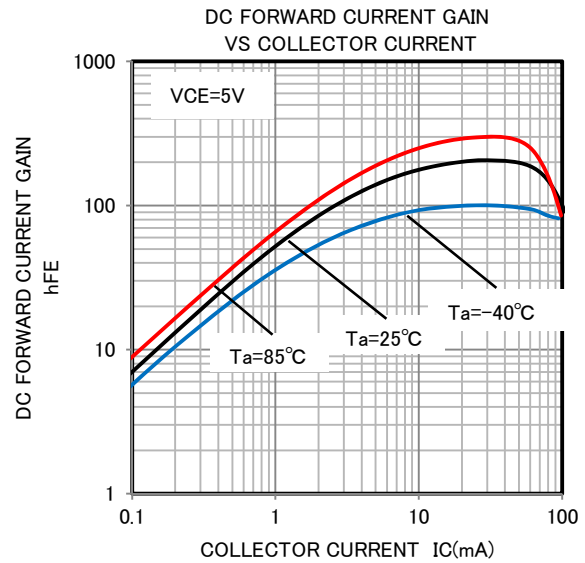
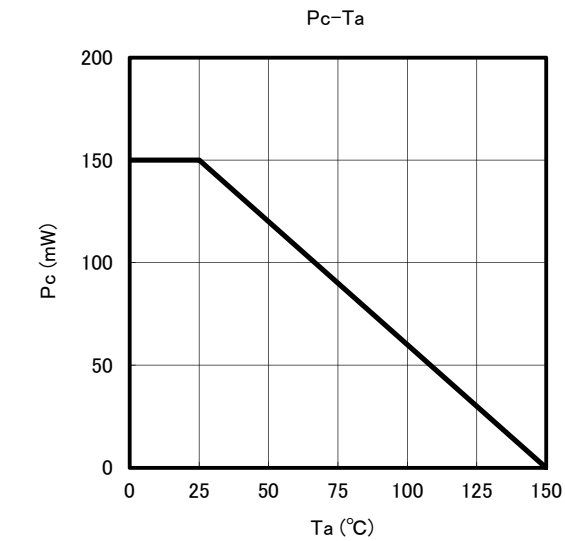
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E breakdown voltage	$I_C=100\mu\text{A}$, $R_{BE}=\infty$	50	—	—	V
I_{CBO}	Collector cut off current	$V_{CB}=50\text{V}$, $I_E=0$	—	—	0.1	μA
I_{EBO}	Emitter cut off current	$V_{EB}=5\text{V}$, $I_C=0$	41	53	76	μA
h_{FE}	DC forward current gain	$V_{CE}=5\text{V}$, $I_C=5\text{mA}$	50	—	—	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$	—	0.1	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2\text{V}$, $I_C=5\text{mA}$	—	2.2	5.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$	0.8	1.1	—	V
R1	Input resistor	—	33	47	61	$k\Omega$
R2/R1	Resistor ratio	—	0.9	1.0	1.1	—
f_T	Gain band width product	$V_{CE}=6\text{V}$, $I_E=-10\text{mA}$	—	200	—	MHz

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TYPICAL CHARACTERISTICS





Keep safety first in your circuit designs!

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