

RT1N431M-T150

Transistor With Resistor
For Switching Application
Silicon NPN Epitaxial Type

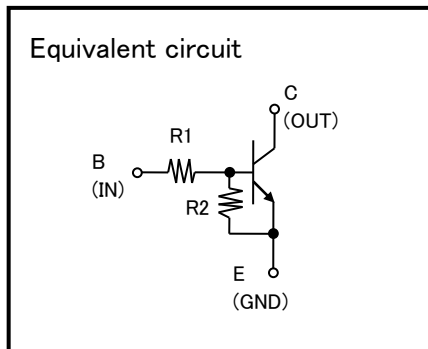
AEC-Q101 Compliance

FEATURE

- Built-in bias resistor ($R1=4.7k\Omega$, $R2=4.7k\Omega$)
- Mini package for easy mounting

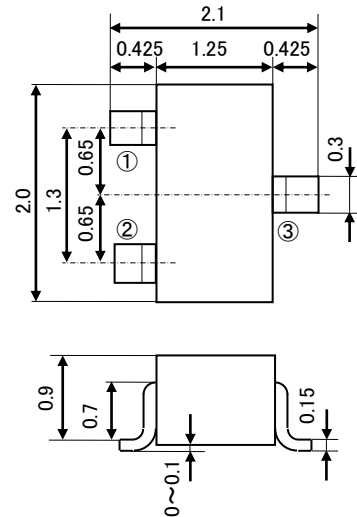
APPLICATION

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



OUTLINE DRAWING

UNIT : mm



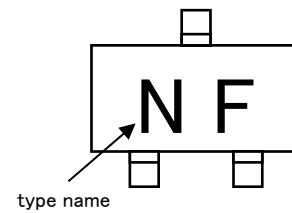
Terminal
Connector

- ① : Base JEITA : SC-70
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	30	V
I_C	Collector current	100	mA
I_{CM}	Peak Collector current	200	mA
P_C	Collector dissipation	200	mW
T_j	Junction temperature	+150	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+150	$^\circ\text{C}$

MARKING



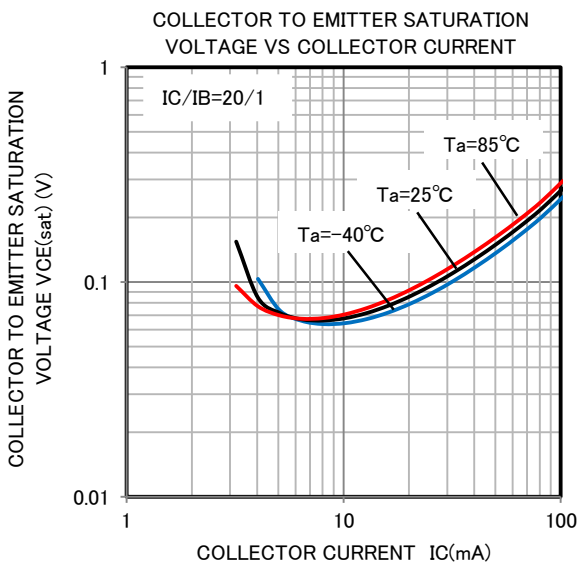
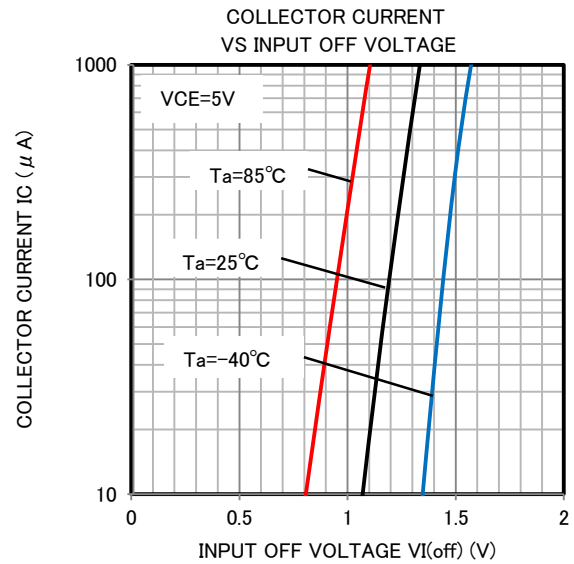
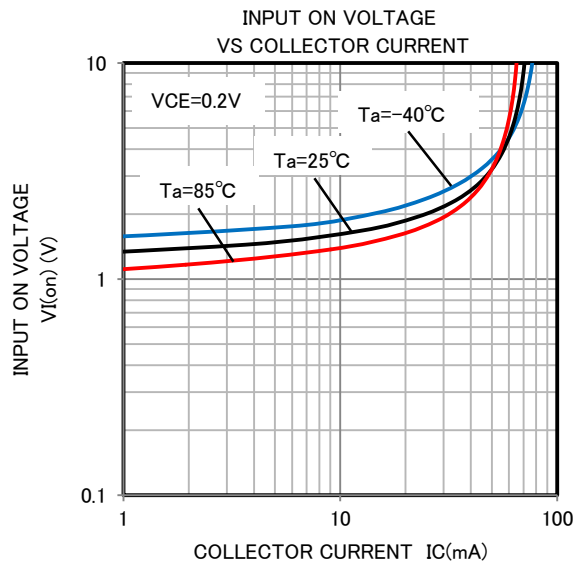
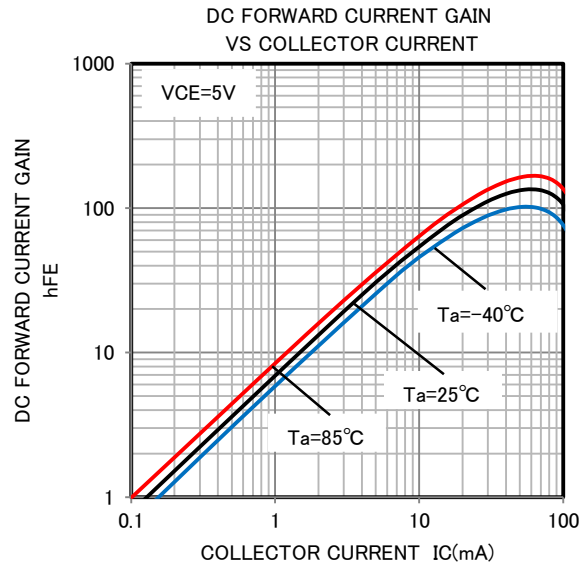
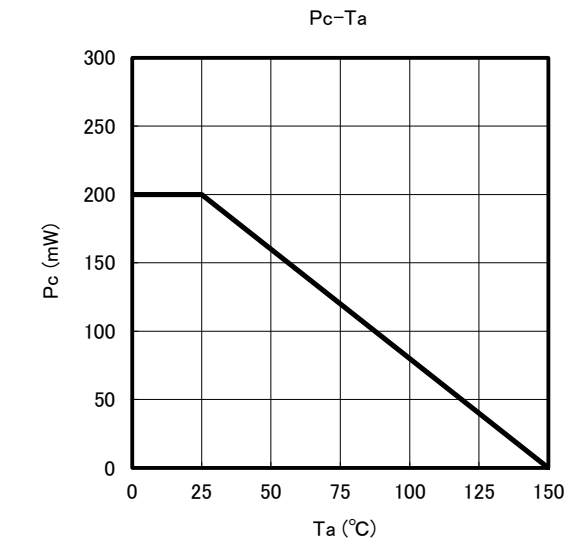
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

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	$V_{EB}=5\text{V}$, $I_C=0$	399	532	771	μA
h_{FE}	DC forward current gain	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$	20	—	—	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$	—	—	0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=0.2\text{V}$, $I_C=5\text{mA}$	—	1.4	2.3	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	—	3.3	4.7	6.1	$k\Omega$
R2/R1	Resistor ratio	—	0.8	1.0	1.2	—
f_T	Gain band width product	$V_{CE}=6\text{V}$, $I_E=-10\text{mA}$	—	200	—	MHz

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TYPICAL CHARACTERISTICS



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