

PRELIMINARY

<MFT LITE>

Notice : This is not a final specification
Some parametric are subject to change.

RT8N010M

NPN transistor with built-in pull-up resistor

DESCRIPTION

RT8N010M is a composite transistor composed of NPN transistor and resistor.

Expected to reduce the size of the set and greatly reduce parts and man-hours.

RT8N010M have built-in resistor, switch circuit, ideal as a logic inversion circuit.

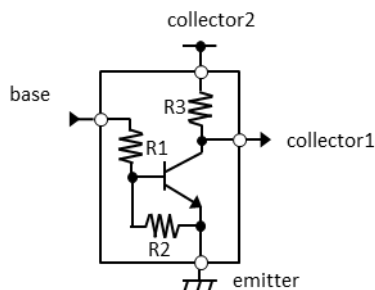
FEATURE

- Enables downsizing of sets and high density mounting.
- Built-in bias resistor (R1=10kΩ/R2=10kΩ)
- Built-in pull-up resistor (R3=10kΩ)

APPLICATION

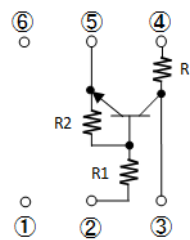
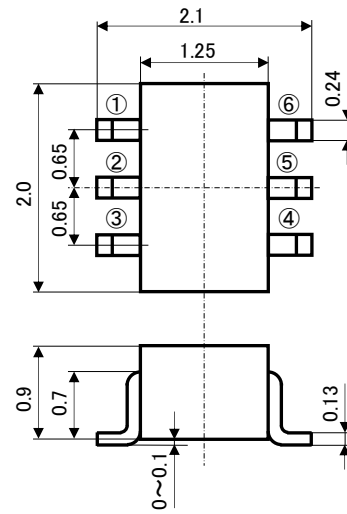
General electronics equipment.

APPLICATION CIRCUIT



OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

- ① : (N.C.)
- ② : BASE
- ③ : COLLECTOR1
- ④ : COLLECTOR2
- ⑤ : EMITTER
- ⑥ : (N.C.)

JEITA: SC-88
JEDEC: -

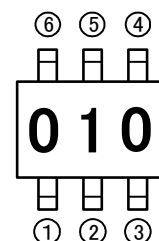
MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING	UNIT
V _{C1B0}	Collector1 to Base voltage	50	V
V _{C1E0}	Collector1 to Emitter voltage	50	V
V _{EBO}	Emitter to Base voltage	10	V
V _{IN}	Input voltage	40	V
I _{C1}	Collector1 current	50	mA
I _{C2}	Collector2 current	10	mA
I _{CM}	Peak Collector1 current	100	mA
P _C	Total dissipation ※ 1	200	mW
T _j	Junction temperature	+150	°C
T _{stg}	Storage temperature	-55~+150	°C

※1: mounted on glass-epoxy substrate(54mm×9mm×1mm)

Operating temperature range: Within T_{stg} temperature range and within T_{jmax} range.

MARKING



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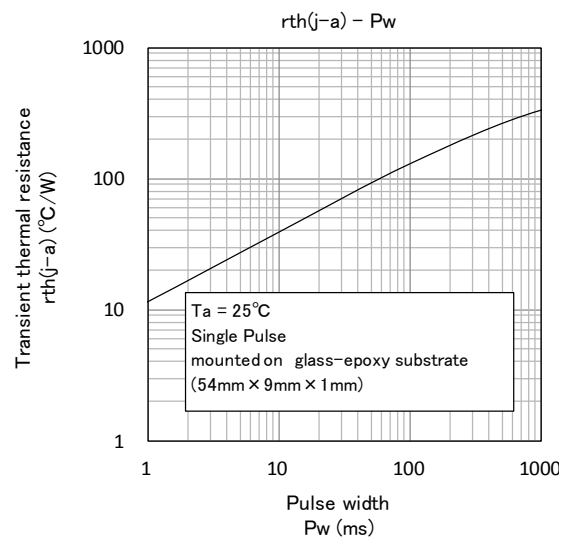
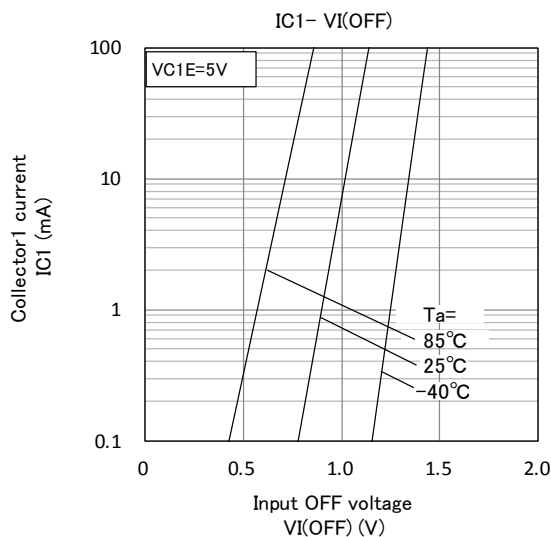
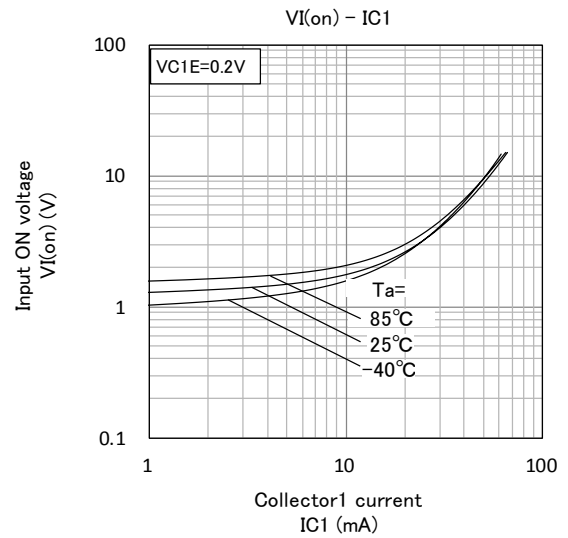
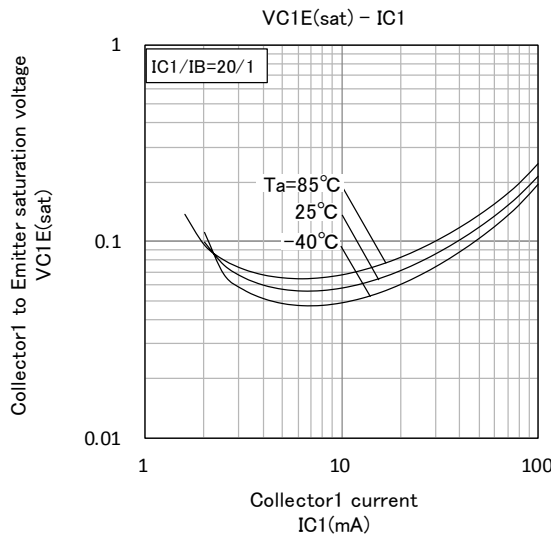
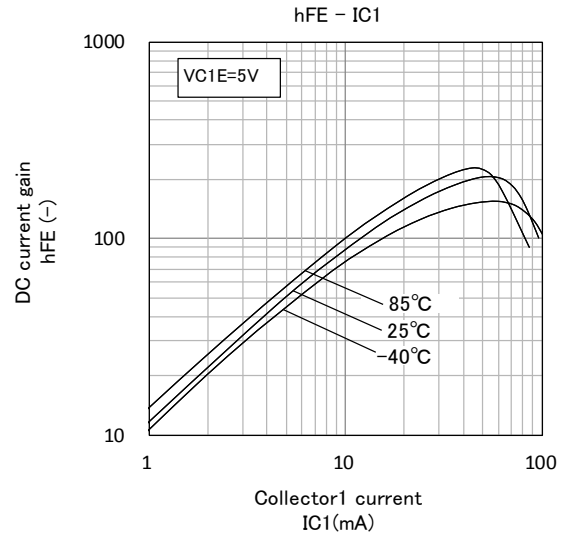
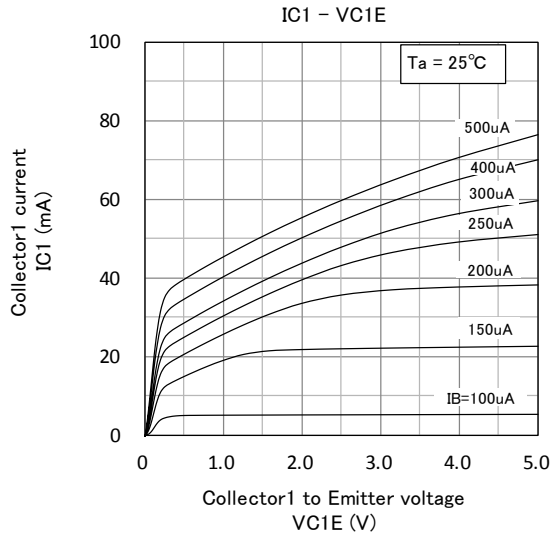
NPN transistor with built-in pull-up resistor

ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{BR(C1EO)}$	Collector1 to Emitter Breakdown voltage	$I_{C1}=100\ \mu\text{A}$, $R_{BE}=\infty$	50	-	-	V
h_{FE}	DC forward current gain	$V_{C1E}=5\text{V}$, $I_{C1}=10\text{mA}$	50	-	-	-
I_{C1BO}	Collector1 cut off current	$V_{C1B}=50\text{V}$, $I_E=0\text{A}$	-	-	0.1	μA
I_{EBO}	Emitter cut off current	$V_{EB}=5\text{V}$, $I_{C1}=0\text{A}$	193	-	357	μA
$V_{C1E(sat)}$	Collector1 to Emitter saturation voltage	$I_{C1}=10\text{mA}$, $I_B=0.5\text{mA}$	-	100	-	mV
$V_{I(ON)}$	Input on voltage	$V_{C1E}=0.2\text{V}$, $I_{C1}=5\text{mA}$	-	1.5	-	V
$V_{I(OFF)}$	Input off voltage	$V_{C1E}=5\text{V}$, $I_{C1}=0.1\text{mA}$	-	1.1	-	V
f_T	Gain band width product	$V_{C1E}=6\text{V}$, $I_E=-10\text{mA}$	-	200	-	MHz
R_1	Input Base resistor		-	10	-	k Ω
R_2	Base to Emitter resistor		-	10	-	k Ω
R_3	Collector2 resistor		-	10	-	k Ω
R_2/R_1	Resistor ratio		0.9	1.0	1.1	-

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TYPICAL CHARACTERISTICS



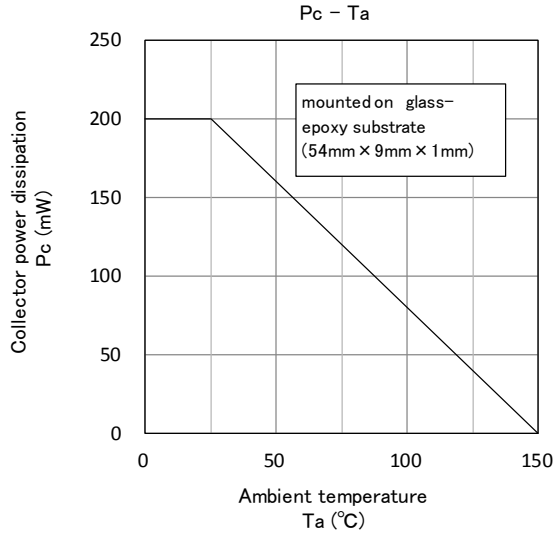
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