

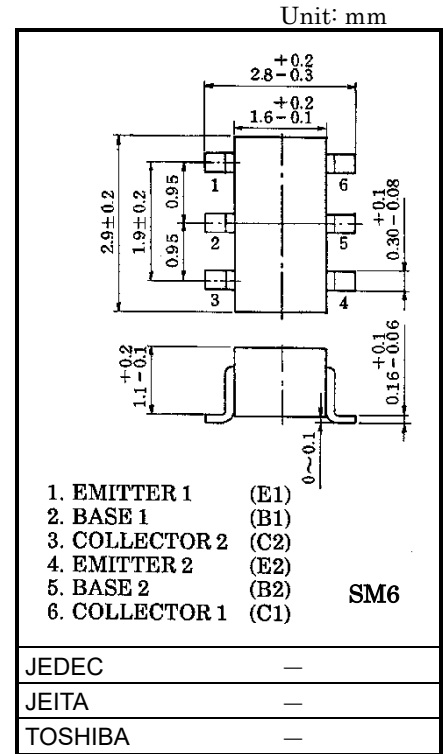
RN2607, RN2608

1. Applications

- Switching
- Inverter Circuit,
- Interface Circuit
- Driver Circuit

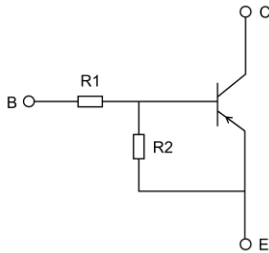
2. Features

- Including two devices in SM6 (super mini type with 6 leads)
- With built-in bias resistors.
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process and miniaturize equipment.
- Various resistance values are available to suit various circuit designs.
- Complementary to RN1607, RN1608



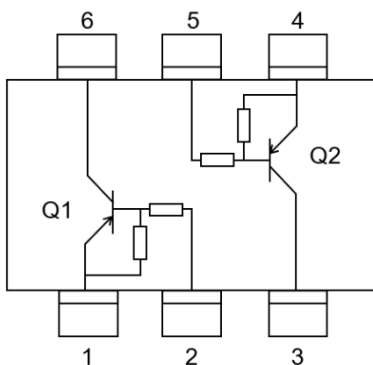
Weight: 0.015 g (typ.)

3. Equivalent Circuit and Bias Resistor Values



Part No	R1 (kΩ)	R2 (kΩ)
RN2607	10	47
RN2608	22	47

4. Internal Circuit (Top View)



Start of commercial production
1988-11

5. Absolute Maximum Ratings (Ta = 25 °C) (Q1, Q2 Common)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	-50	V
Collector-emitter voltage	V _{CEO}	-50	V
Emitter-base voltage	RN2607	-6	V
	RN2608	-7	
Collector current	I _C	-100	mA
Collector power dissipation	P _C (Note 1)	300	mW
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Total rating

6. Electrical Characteristics (Ta = 25 °C) (Q1, Q2 Common)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = -50 V, I _E = 0 mA	—	—	-100	nA
	I _{CEO}	V _{CE} = -50 V, I _B = 0 mA	—	—	-500	nA
Emitter cut-off current	I _{EBO}	RN2607 V _{EB} = -6 V, I _C = 0 mA	-0.081	—	-0.15	mA
		RN2608 V _{EB} = -7 V, I _C = 0 mA	-0.078	—	-0.145	
DC current gain	h _{FE}	V _{CE} = -5 V, I _C = -10 mA	80	—	—	—
			80	—	—	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -5 mA, I _B = -0.25 mA	—	-0.1	-0.3	V
Input voltage (ON)	V _{I(ON)}	V _{CE} = -0.2 V, I _C = -5 mA	-0.7	—	-1.8	V
			-1.0	—	-2.6	
Input voltage (OFF)	V _{I(OFF)}	V _{CE} = -5 V, I _C = -0.1 mA	-0.5	—	-1.0	V
			-0.6	—	-1.16	
Translation frequency	f _T	V _{CE} = -10 V, I _C = -5 mA	—	200	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0 mA, f = 1 MHz	—	3	6	pF
Input resistance	R ₁	—	7	10	13	kΩ
			15.4	22	28.6	
Resistance ratio	R ₁ / R ₂	—	0.191	0.213	0.232	—
			0.421	0.468	0.515	

7. Characteristics curves (Note) (Q1, Q2 Common)

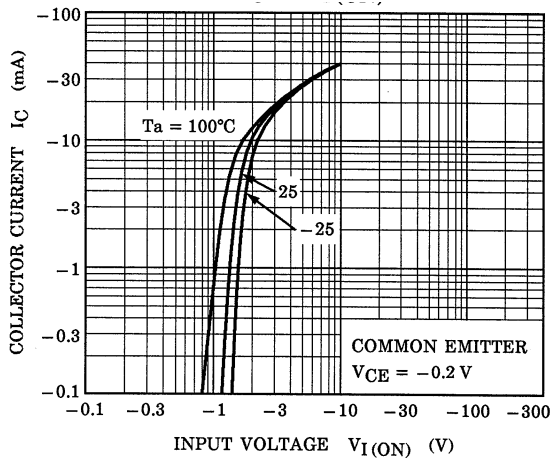


Fig 7.1 RN2607 $I_C - V_{I(ON)}$

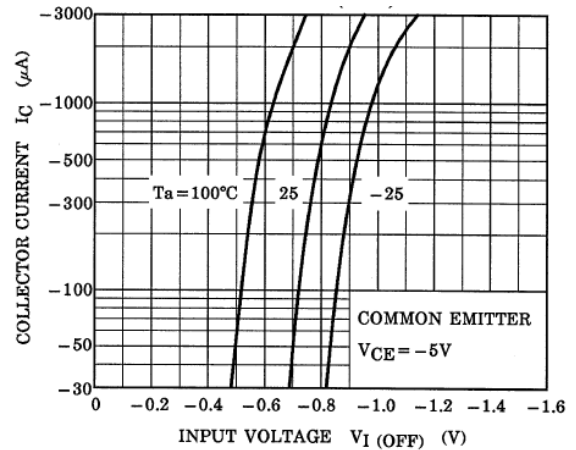


Fig 7.2 RN2607 $I_C - V_{I(OFF)}$

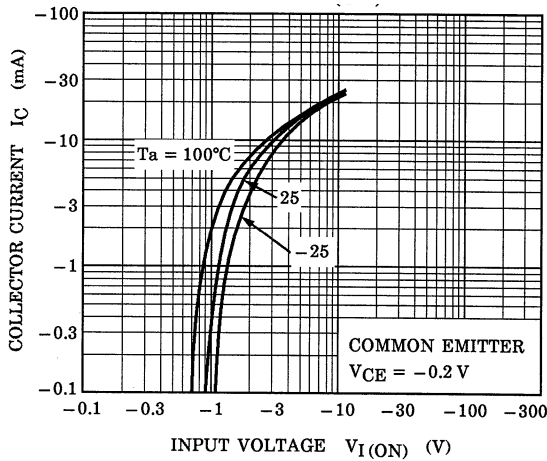


Fig 7.3 RN2608 $I_C - V_{I(ON)}$

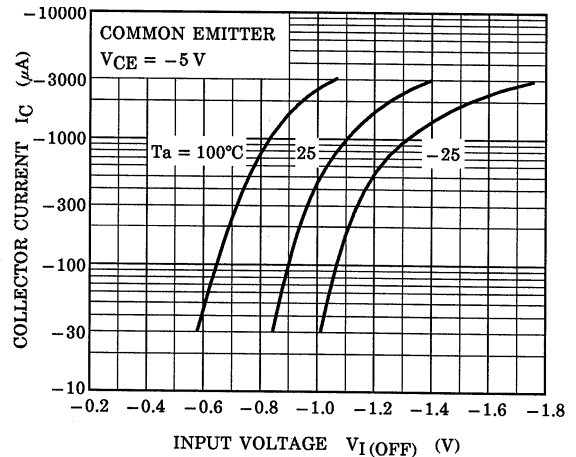


Fig 7.4 RN2608 $I_C - V_{I(OFF)}$

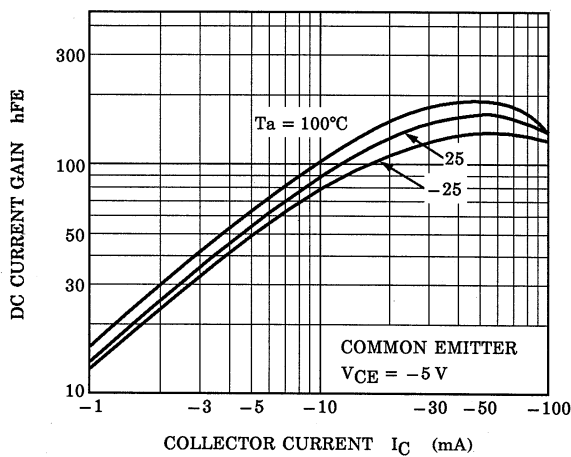


Fig 7.5 RN2607 $h_{FE} - I_C$

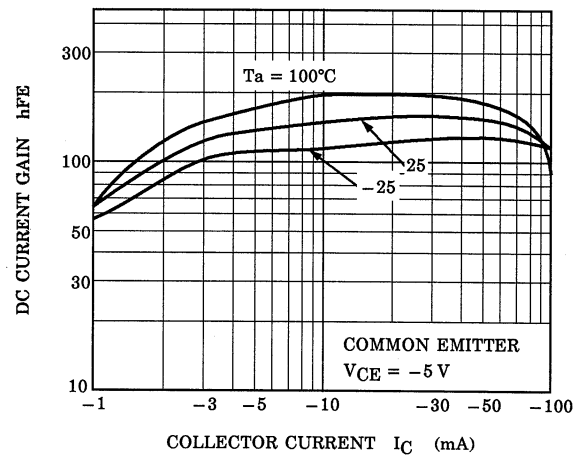
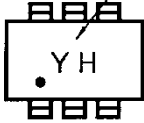
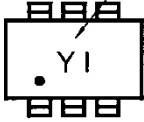


Fig 7.6 RN2608 $h_{FE} - I_C$

Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

8. Marking

Part No	Marking
RN2607	<p data-bbox="571 383 831 409">Part No.(abbreviation code)</p> 
RN2608	<p data-bbox="571 613 831 640">Part No.(abbreviation code)</p> 

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