

2SC3312

Silicon NPN epitaxial planar type

For low-frequency and low-noise amplification

Complementary to 2SA1310

■ Features

- Optimum for high-density mounting
- Allowing supply with the radial tapping
- Low noise voltage NV

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	60	V
Collector-emitter voltage (Base open)	V_{CEO}	55	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_{C}	100	mA
Peak collector current	I_{CP}	200	mA
Collector power dissipation	P_{C}	300	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

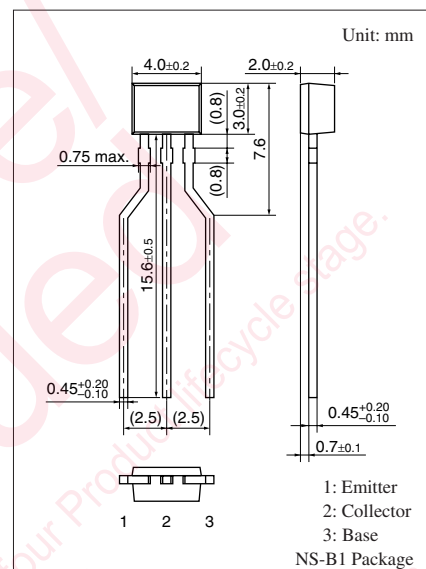
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

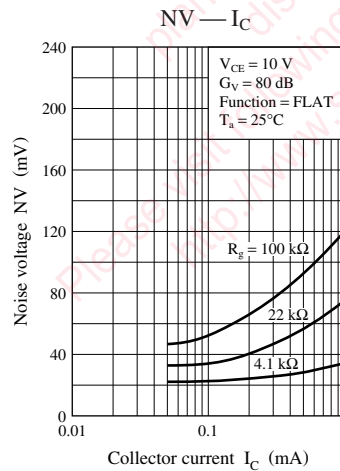
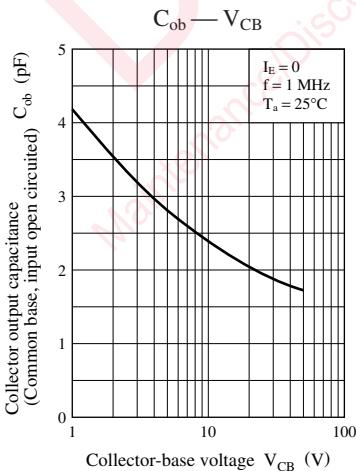
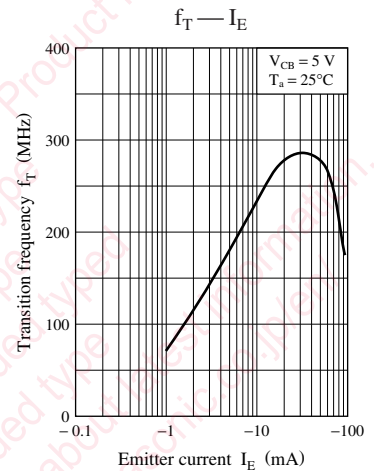
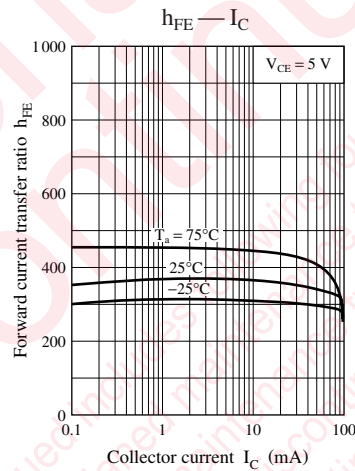
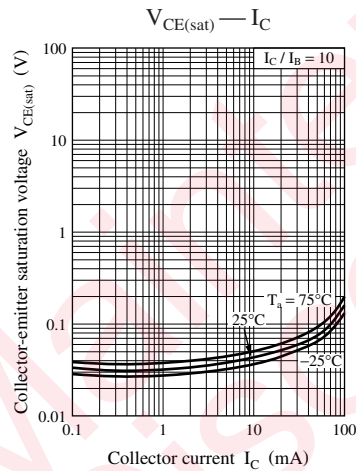
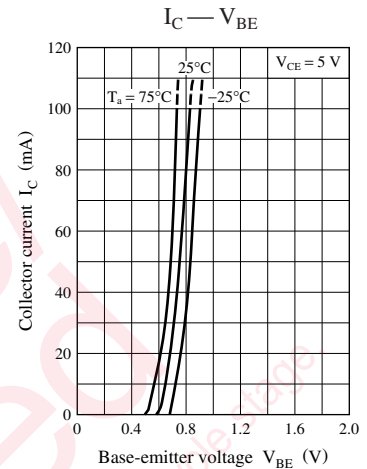
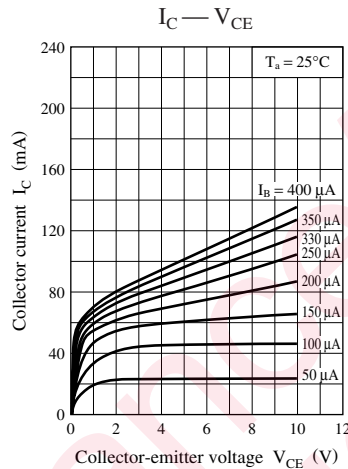
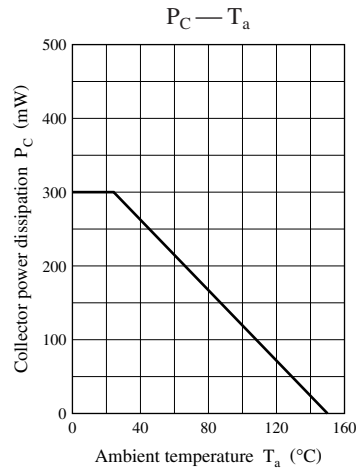
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$	60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_{\text{C}} = 2 \text{ mA}$, $I_{\text{B}} = 0$	55			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_{\text{E}} = 10 \mu\text{A}$, $I_{\text{C}} = 0$	7			V
Base-emitter voltage	V_{BE}	$V_{\text{CE}} = 1 \text{ V}$, $I_{\text{C}} = 30 \text{ mA}$			1	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = 20 \text{ V}$, $I_{\text{E}} = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = 20 \text{ V}$, $I_{\text{B}} = 0$			1	μA
Forward current transfer ratio *	h_{FE}	$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 2 \text{ mA}$	180		700	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 100 \text{ mA}$, $I_{\text{B}} = 10 \text{ mA}$			1	V
Transition frequency	f_{T}	$V_{\text{CB}} = 5 \text{ V}$, $I_{\text{E}} = -2 \text{ mA}$, $f = 200 \text{ MHz}$		200		MHz
Noise voltage	NV	$V_{\text{CE}} = 10 \text{ V}$, $I_{\text{C}} = 1 \text{ mA}$, $G_{\text{V}} = 80 \text{ dB}$ $R_{\text{g}} = 100 \text{ k}\Omega$, Function = FLAT			150	mV

(Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	R	S	T
h_{FE}	180 to 360	260 to 520	360 to 700





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