

2SC3314

Silicon NPN epitaxial planar type

For high-frequency amplification
Complementary to 2SA1323

■ Features

- Optimum for high-density mounting
- Allowing supply with the radial tapering
- Optimum for RF amplification of FM/AM radios
- High transition frequency f_T

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	30	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

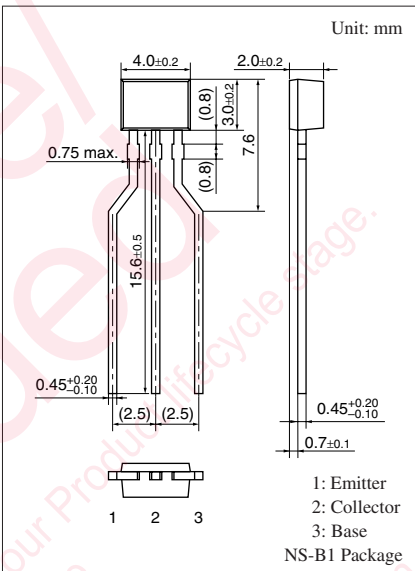
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

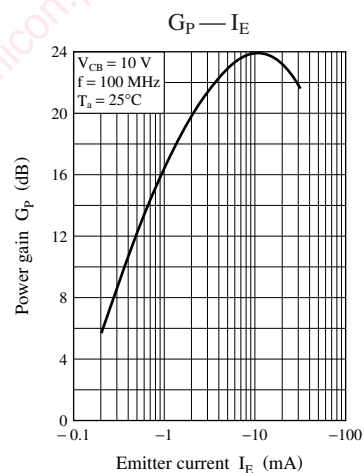
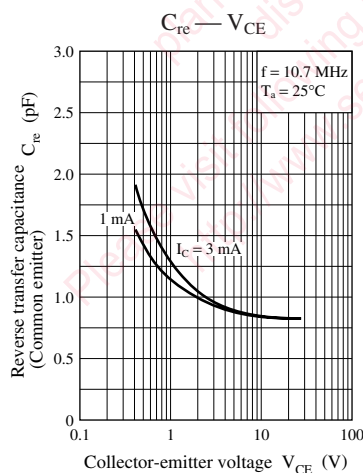
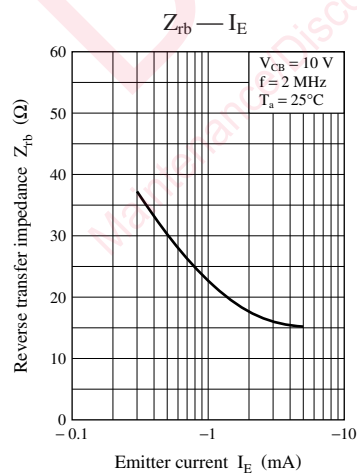
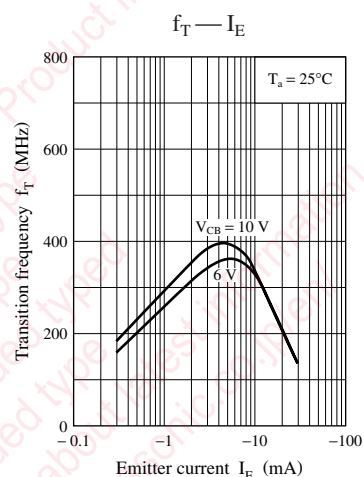
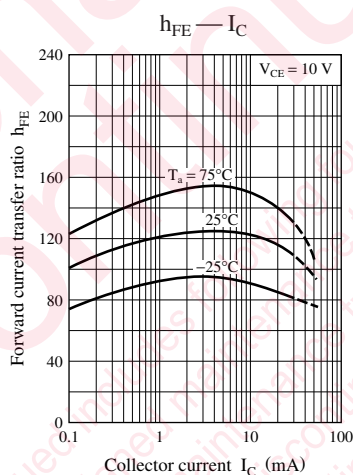
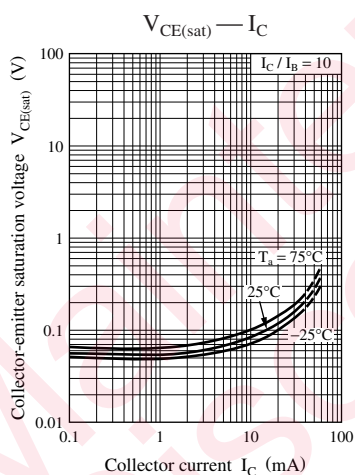
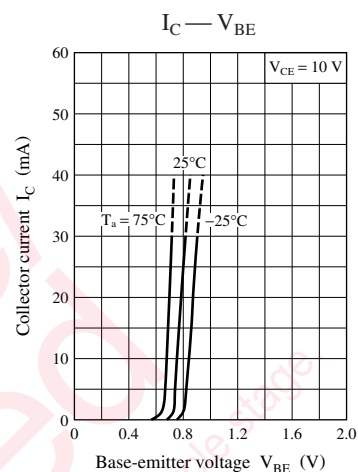
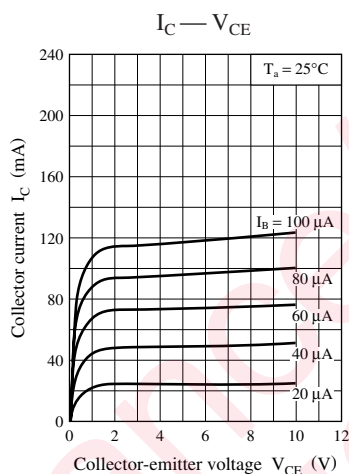
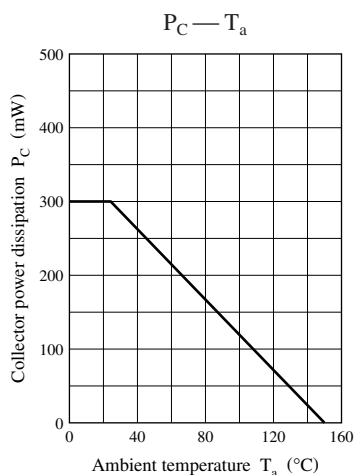
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu\text{A}, I_E = 0$	30			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1\ \text{mA}, I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Base-emitter voltage	V_{BE}	$V_{CE} = 10\ \text{V}, I_C = 1\ \text{mA}$		0.7		V
Forward current transfer ratio *	h_{FE}	$V_{CE} = 10\ \text{V}, I_C = 1\ \text{mA}$	70		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\ \text{mA}, I_B = 1\ \text{mA}$		0.1		V
Transition frequency	f_T	$V_{CB} = 10\ \text{V}, I_E = -1\ \text{mA}, f = 200\ \text{MHz}$	150	300		MHz
Noise figure	NF	$V_{CB} = 10\ \text{V}, I_E = -1\ \text{mA}, f = 5\ \text{MHz}$		2.8	4.0	dB
Reverse transfer capacitance (Common emitter)	C_{re}	$V_{CB} = 10\ \text{V}, I_E = -1\ \text{mA}, f = 10.7\ \text{MHz}$			1.5	pF
Reverse transfer impedance	Z_{rb}	$V_{CB} = 10\ \text{V}, I_E = -1\ \text{mA}, f = 2\ \text{MHz}$		22	50	Ω

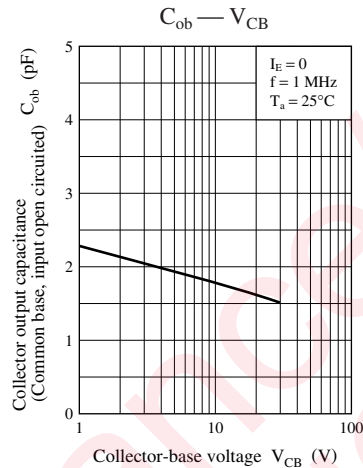
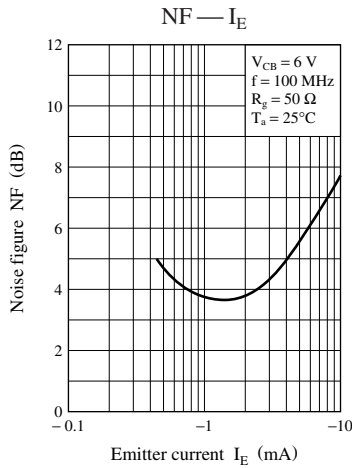
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	B	C
h_{FE}	70 to 140	110 to 220







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