

# 2SC3314

## Silicon NPN epitaxial planar type

For high-frequency amplification

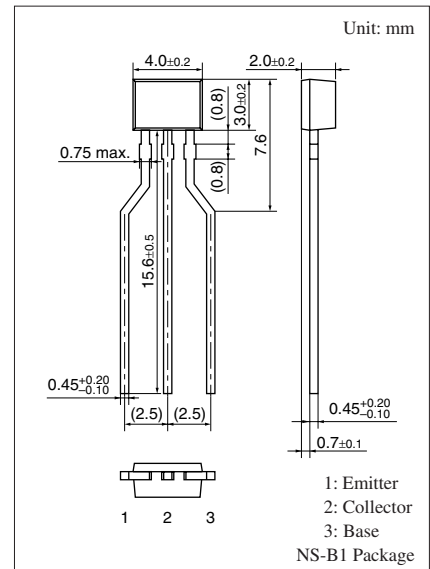
Complementary to 2SA1323

### ■ Features

- Optimum for high-density mounting
- Allowing supply with the radial taping
- 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	$^\circ\text{C}$



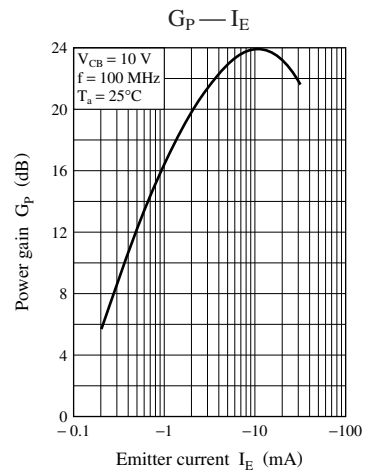
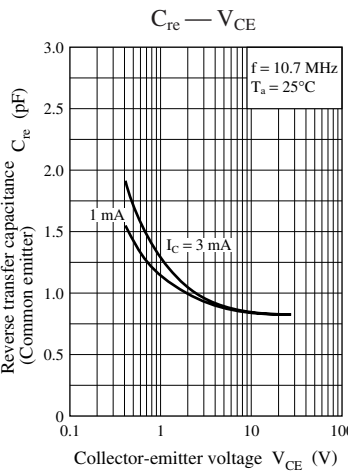
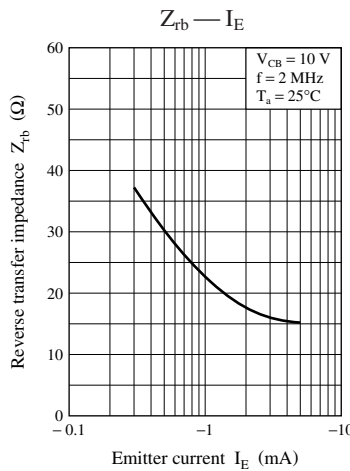
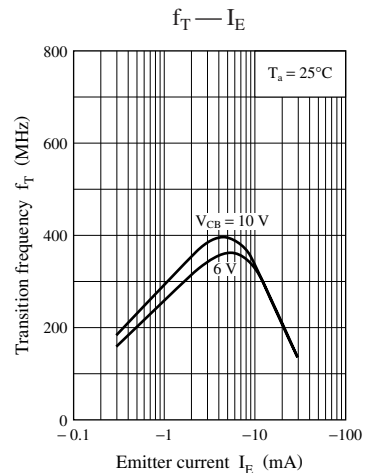
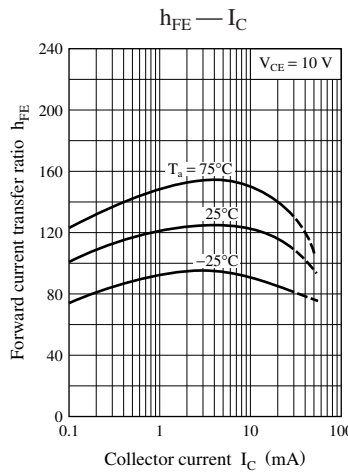
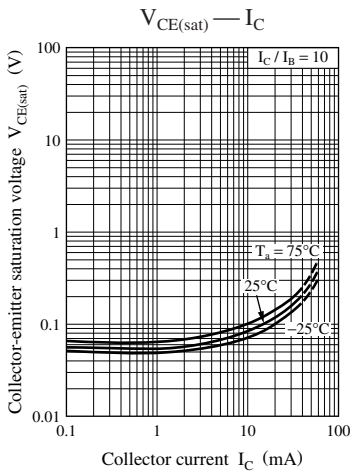
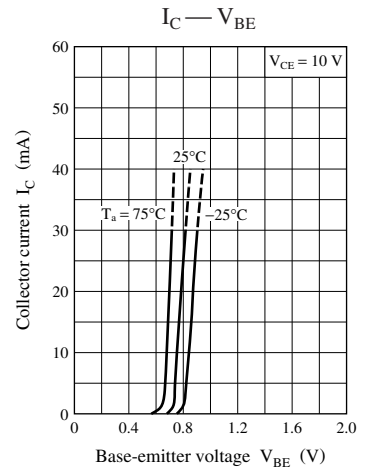
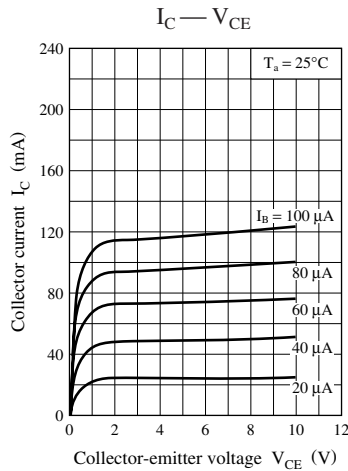
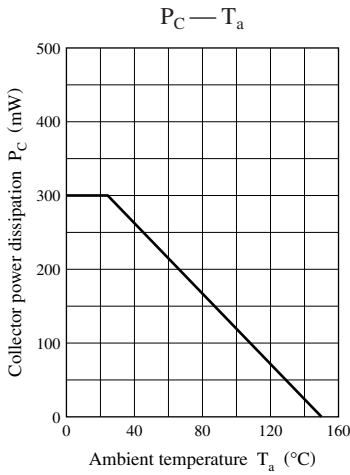
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

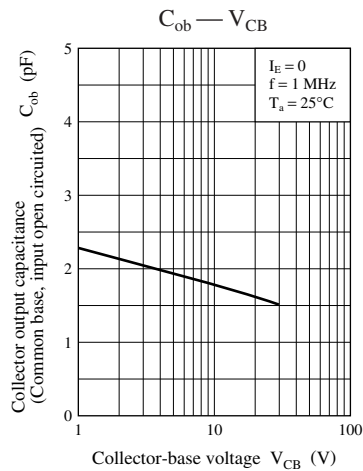
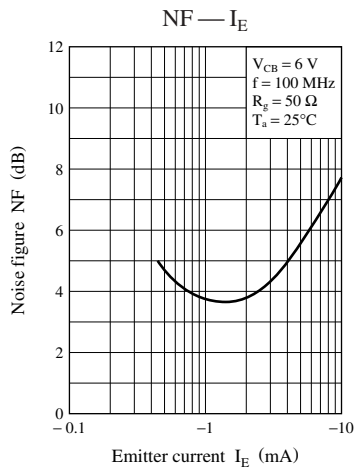
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	30			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	20			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	5			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	$\Omega$

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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