

# 2SC3313

## Silicon NPN epitaxial planar type

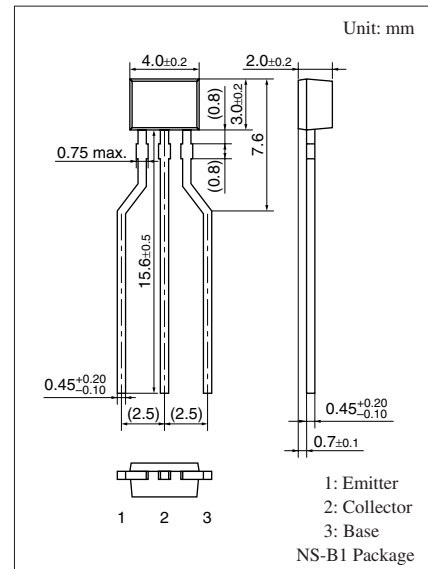
For high-frequency amplification

### ■ Features

- Optimum for high-density mounting
- Allowing supply with the radial taping
- Optimum for RF amplification of FM/AM radios

### ■ 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	$^\circ\text{C}$



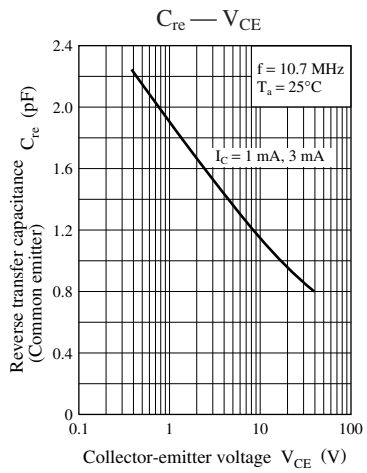
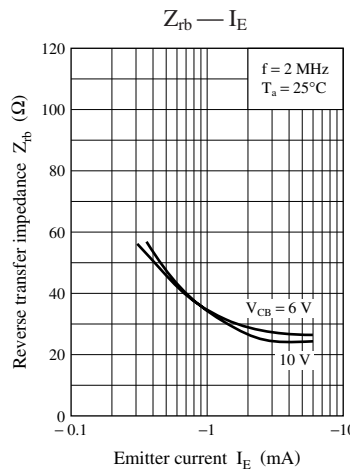
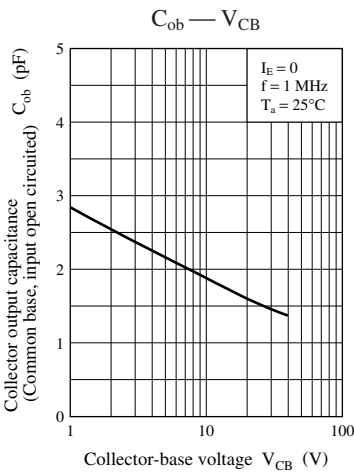
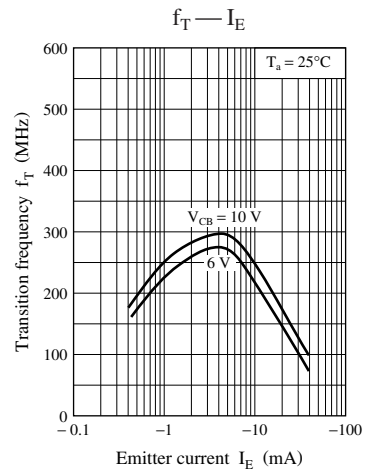
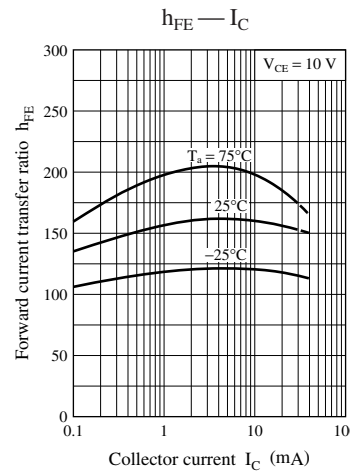
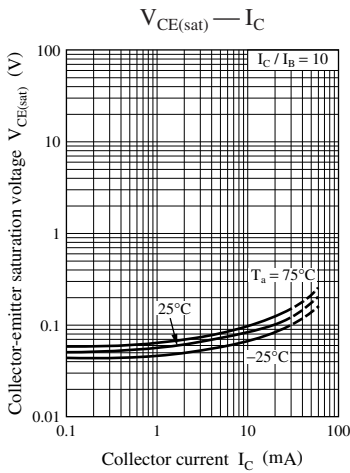
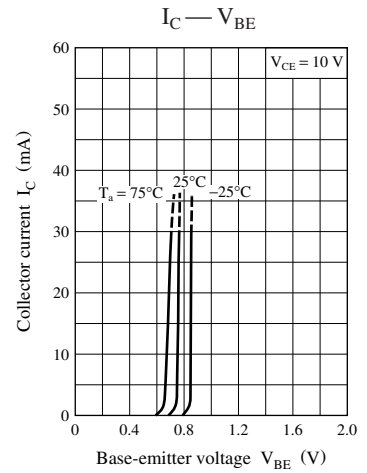
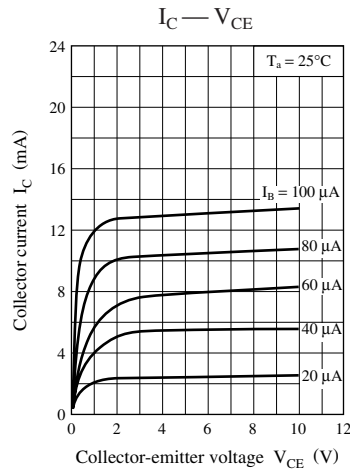
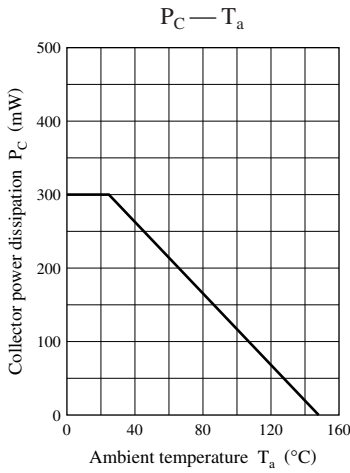
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

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)	$V_{CEO}$	$I_C = 2 \text{ mA}$ , $I_B = 0$	20			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}$ , $I_C = 0$	5			V
Forward current transfer ratio *	$h_{FE}$	$V_{CB} = 10 \text{ V}$ , $I_E = -1 \text{ mA}$	70		250	—
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}$ , $I_E = -1 \text{ mA}$ , $f = 200 \text{ MHz}$	150			MHz
Reverse transfer capacitance (Common emitter)	$C_{re}$	$V_{CB} = 10 \text{ V}$ , $I_E = -1 \text{ mA}$ , $f = 10.7 \text{ MHz}$			1.6	pF
Reverse transfer impedance	$Z_{rb}$	$V_{CB} = 10 \text{ V}$ , $I_E = -1 \text{ mA}$ , $f = 2 \text{ MHz}$			60	$\Omega$

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 160	110 to 250



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