

2SC3314

Silicon NPN epitaxial planer type

For high-frequency amplification

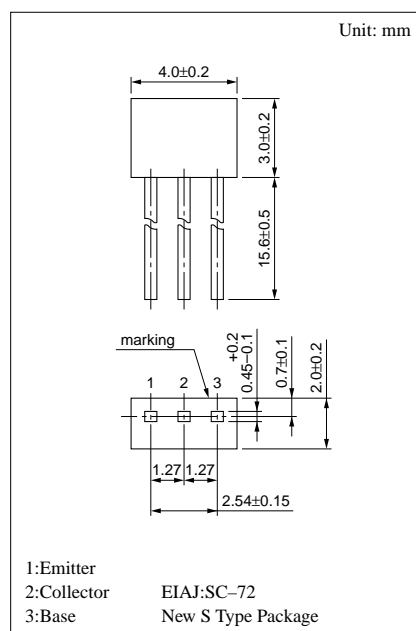
Complementary to 2SA1323

Features

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

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	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}	$-55 \sim +150$	$^\circ\text{C}$

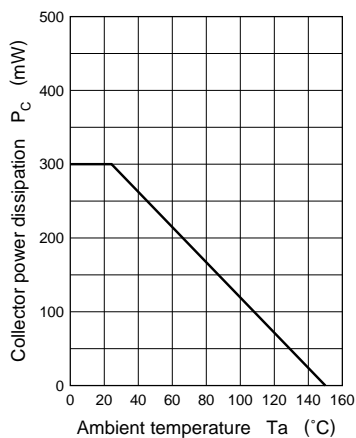
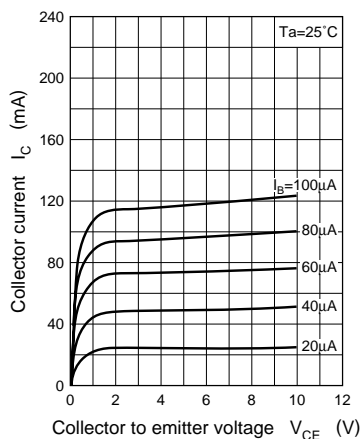
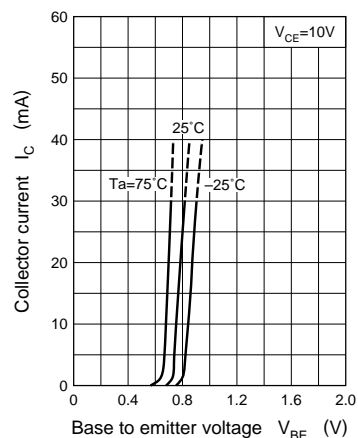
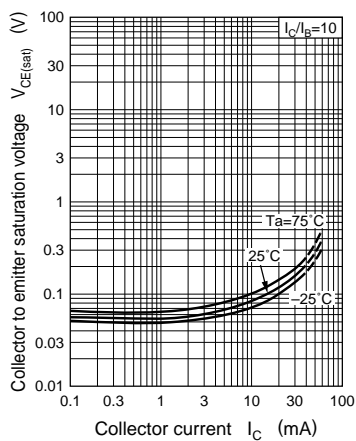
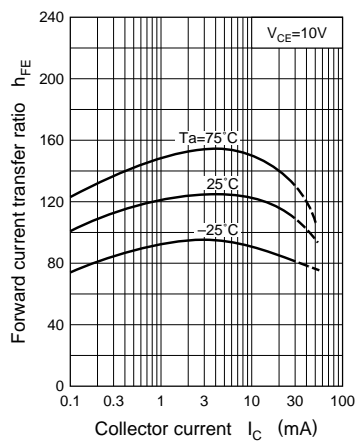
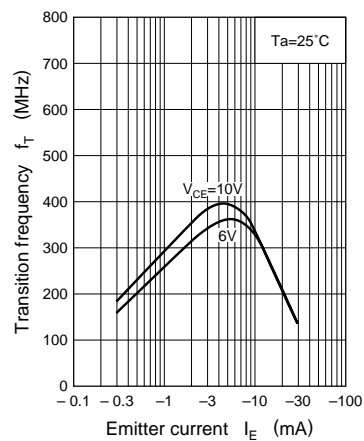
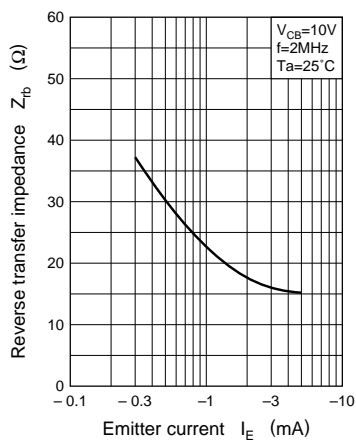
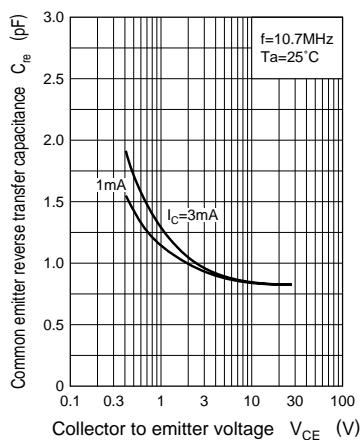
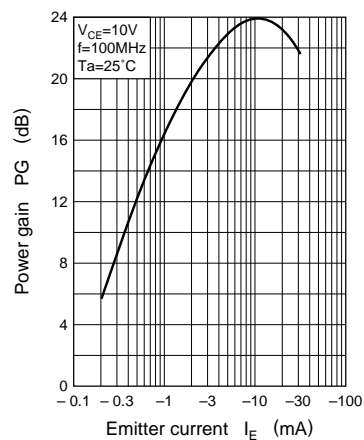


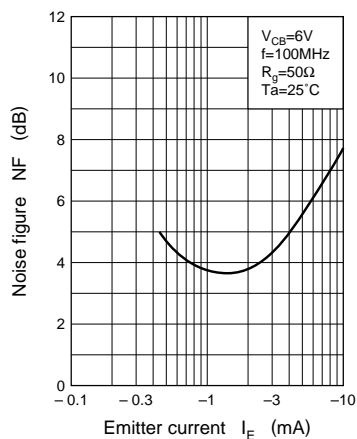
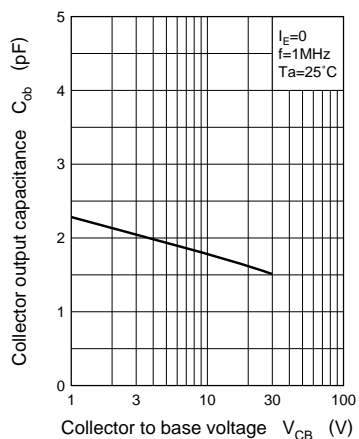
Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	$I_C = 10\mu\text{A}$, $I_E = 0$	30			V
Collector to emitter voltage	V_{CEO}	$I_C = 1\text{mA}$, $I_B = 0$	20			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0$	5			V
Forward current transfer ratio	h_{FE}^*	$V_{CE} = 10\text{V}$, $I_C = 1\text{mA}$	70		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$		0.1		V
Base to emitter voltage	V_{BE}	$V_{CE} = 10\text{V}$, $I_C = 1\text{mA}$		0.7		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
Common emitter reverse transfer capacitance	C_{re}	$V_{CE} = 10\text{V}$, $I_C = 1\text{mA}$, $f = 10.7\text{MHz}$			1.5	pF
Reverse transfer impedance	Z_{rb}	$V_{CB} = 10\text{V}$, $I_E = -1\text{mA}$, $f = 2\text{MHz}$			50	Ω

* h_{FE} Rank classification

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

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $Z_{rb} - I_E$  $C_{re} - V_{CE}$  $PG - I_E$ 

NF — I_E  C_{ob} — V_{CB} 

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