

2SC3314

Silicon NPN epitaxial planer type

For high-frequency amplification

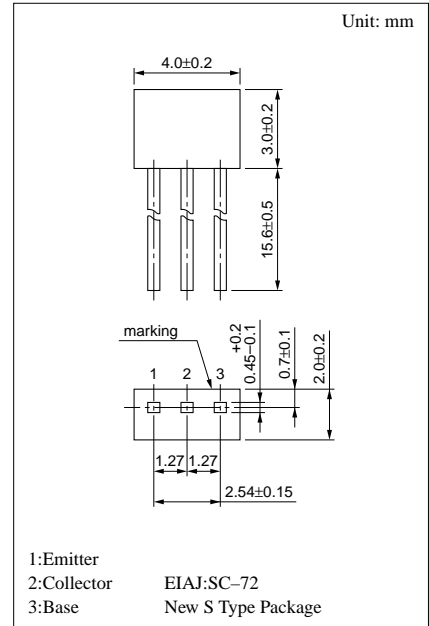
Complementary to 2SA1323

■ 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 (Ta=25°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	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



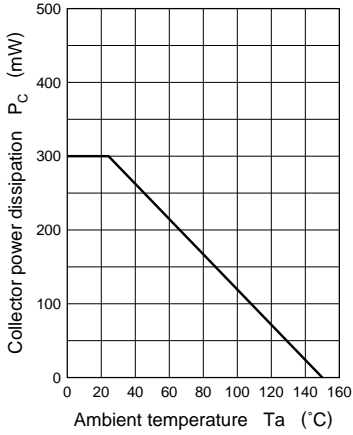
■ Electrical Characteristics (Ta=25°C)

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

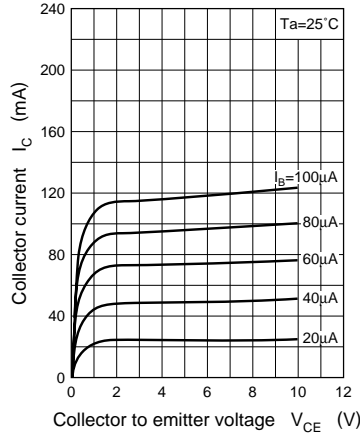
* h_{FE} Rank classification

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

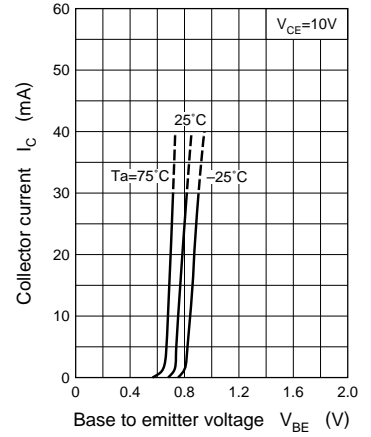
$P_C - T_a$



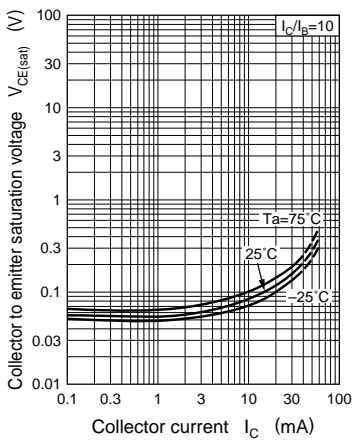
$I_C - V_{CE}$



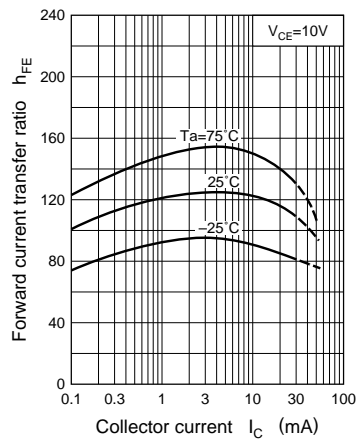
$I_C - V_{BE}$



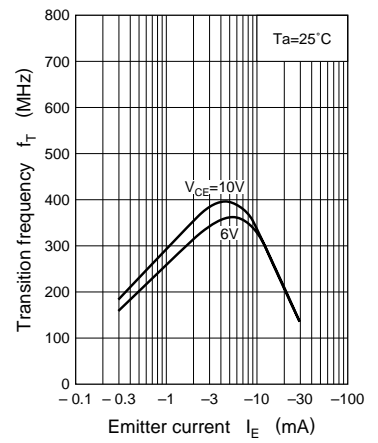
$V_{CE(sat)} - I_C$



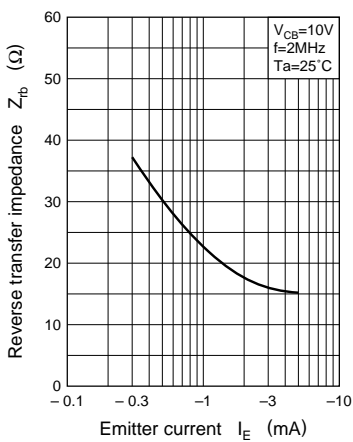
$h_{FE} - I_C$



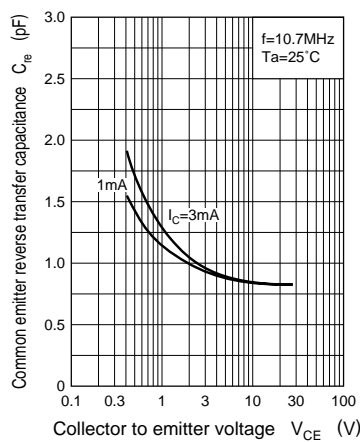
$f_T - I_E$



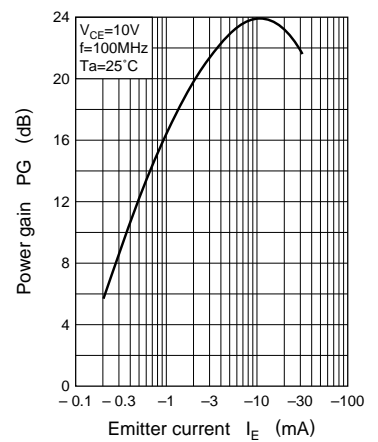
$Z_{rb} - I_E$



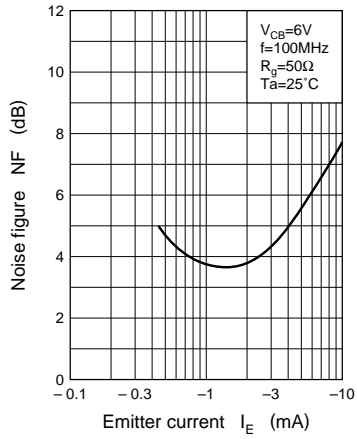
$C_{re} - V_{CE}$



$PG - I_E$



NF — I_E



C_{ob} — V_{CB}

