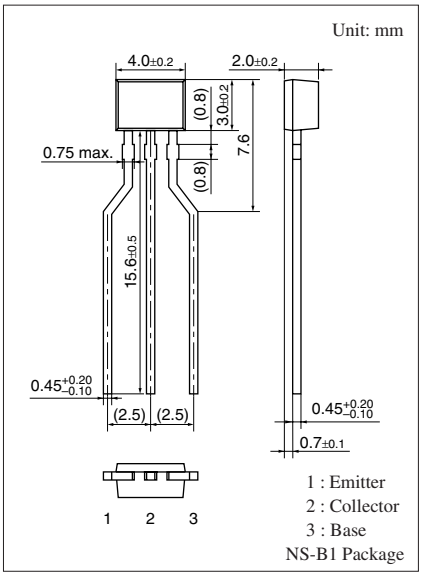
2SA1323

Silicon PNP epitaxial planar type

For low-frequency amplification
Complementary to 2SC3314



■ Features

- Allowing supply with the radial taping
- High transition frequency f_T
- Optimum for high-density mounting

■ Absolute Maximum Ratings $T_a = 25°C$

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
Peak collector current	I_{CP}	−60	mA
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

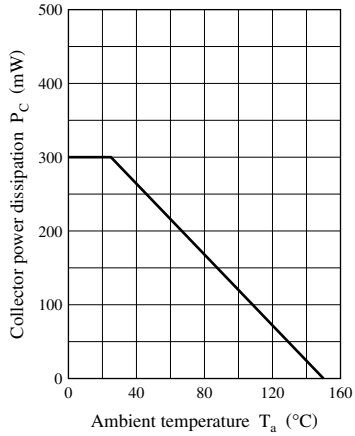
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter saturation voltage	V_{BE}	$V_{CE} = -10$ V, $I_C = -1$ mA		− 0.7		V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -10$ V, $I_E = 0$			− 0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -20$ V, $I_B = 0$			−100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−10	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -10$ V, $I_C = -1$ mA	70		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10$ mA, $I_B = -1$ mA		− 0.1		V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 200 MHz	150	300		MHz
Noise figure	NF	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 5 MHz		2.8	4.0	dB
Reverse transfer impedance	Z_{rb}	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 2 MHz		22	50	Ω
Reverse transfer capacitance (Common-emitter)	C_{re}	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 10.7 MHz		1.2	2.0	pF

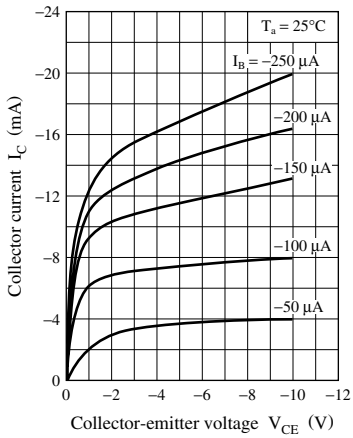
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

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

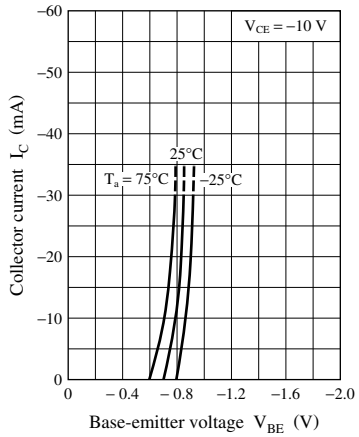
P_C — T_a



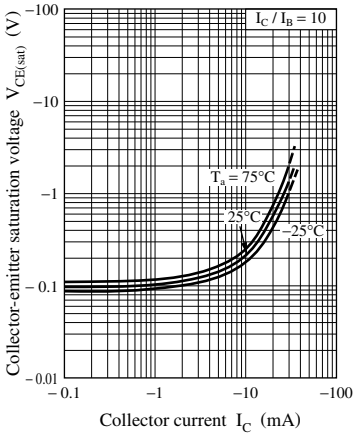
I_C — V_{CE}



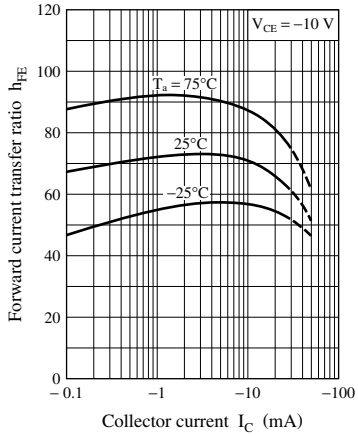
I_C — V_{BE}



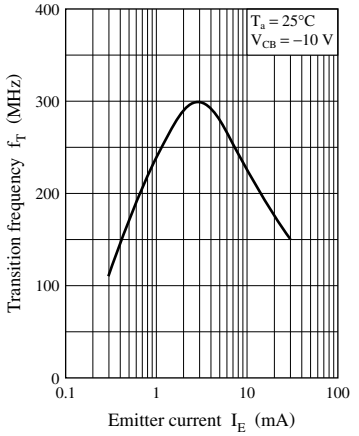
$V_{CE(sat)}$ — I_C



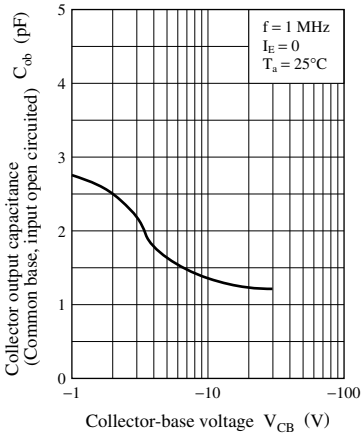
h_{FE} — I_C



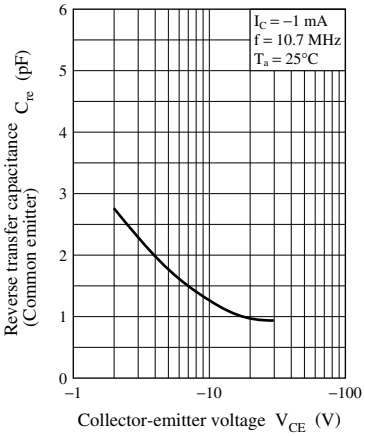
f_T — I_E



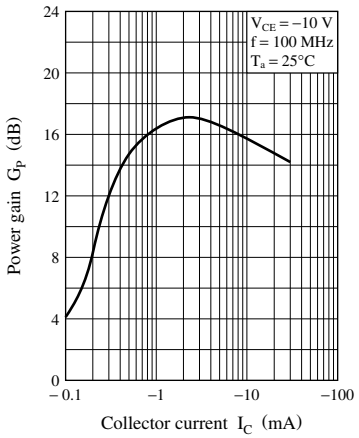
C_{ob} — V_{CB}



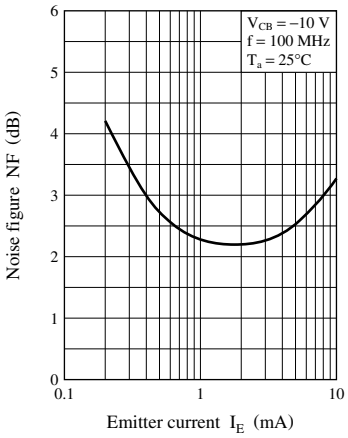
C_{re} — V_{CE}



G_P — I_C



NF — I_E


V_{CB} = −10 V
f = 100 MHz
T_a = 25°C
Noise figure NF (dB)
0
1
2
3
4
5
6
0.1
1
10
Emitter current I_E (mA)

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