

# 2SB1220

## Silicon PNP epitaxial planar type

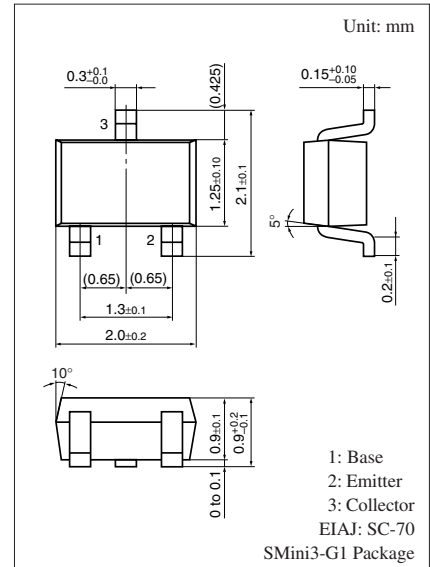
For high breakdown voltage low-noise amplification  
Complementary to 2SD1821

### ■ Features

- High collector-emitter voltage (Base open)  $V_{CEO}$
- Low noise voltage NV
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	-150	V
Collector-emitter voltage (Base open)	$V_{CEO}$	-150	V
Emitter-base voltage (Collector open)	$V_{EBO}$	-5	V
Collector current	$I_C$	-50	mA
Peak collector current	$I_{CP}$	-100	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



Marking Symbol: I

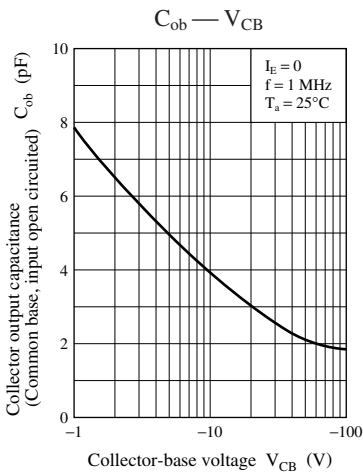
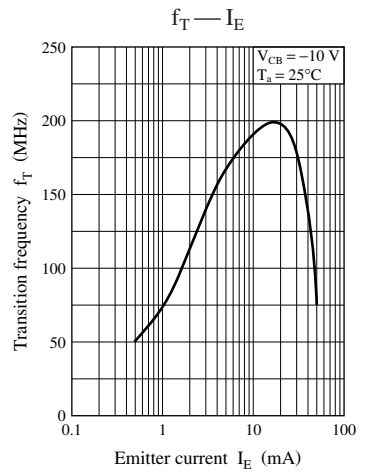
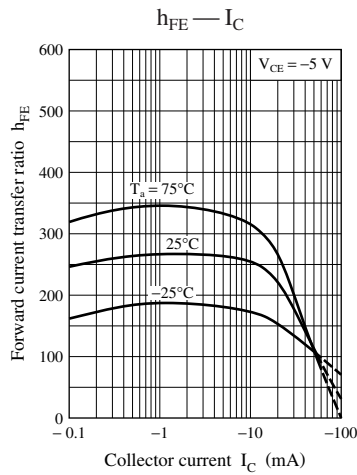
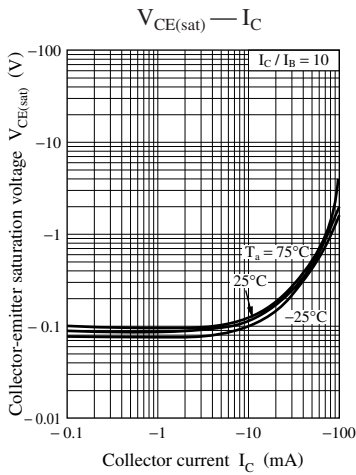
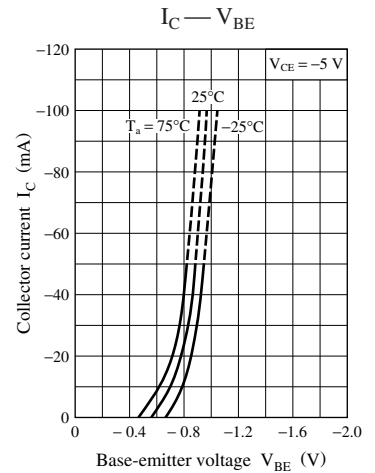
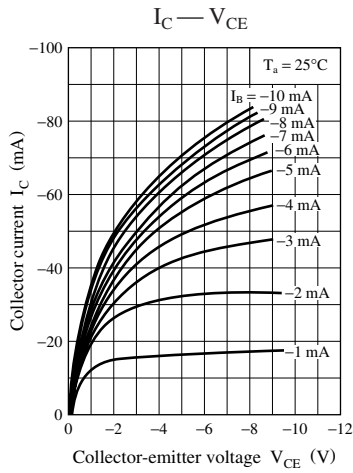
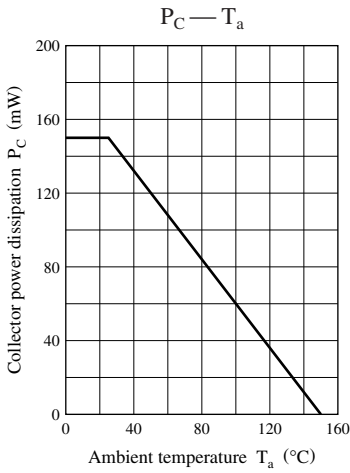
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -100 \mu\text{A}, I_B = 0$	-150			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = -10 \mu\text{A}, I_C = 0$	-5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -100 \text{V}, I_E = 0$			-1	$\mu\text{A}$
Forward current transfer ratio *	$h_{FE}$	$V_{CE} = -5 \text{V}, I_C = -10 \text{mA}$	130		450	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -30 \text{mA}, I_B = -3 \text{mA}$			-1	V
Transition frequency	$f_T$	$V_{CB} = -10 \text{V}, I_E = 10 \text{mA}, f = 200 \text{MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = -10 \text{V}, I_E = 0, f = 1 \text{MHz}$		4		pF
Noise voltage	NV	$V_{CE} = -10 \text{V}, I_C = -1 \text{mA}, G_V = 80 \text{dB}$ $R_g = 100 \text{k}\Omega, \text{Function} = \text{FLAT}$		150		mV

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

Rank	R	S	T
$h_{FE}$	130 to 220	185 to 330	260 to 450



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