

# 2SA1123

## Silicon PNP epitaxial planar type

For low-frequency high breakdown voltage amplification  
Complementary to 2SC2631

### ■ Features

- Satisfactory forward current transfer ratio  $h_{FE}$  collector current  $I_C$  characteristics.
- High collector-emitter voltage (Base open)  $V_{CEO}$
- Small collector output capacitance (Common base, input open circuited)  $C_{ob}$
- Makes up a complementary pair with 2SC2631, which is optimum for the pre-driver stage of a 20 W to 40 W output amplifier.

### ■ 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	$P_C$	750	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

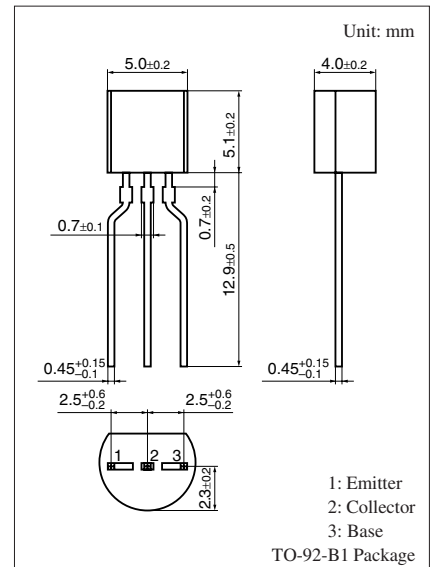
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

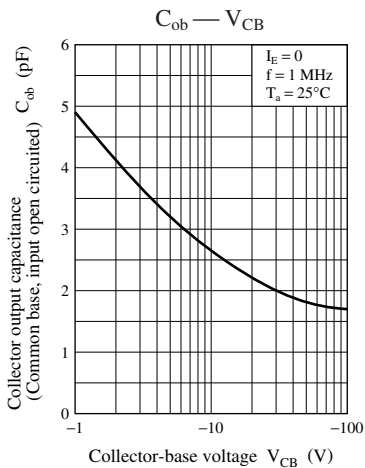
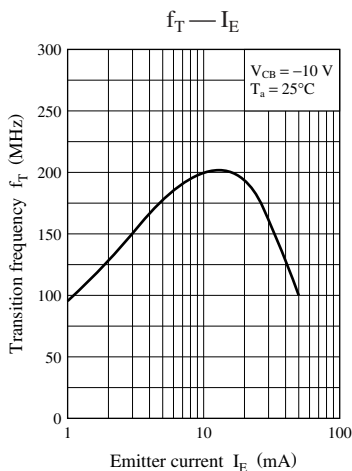
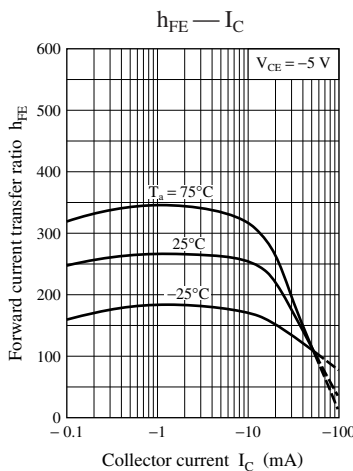
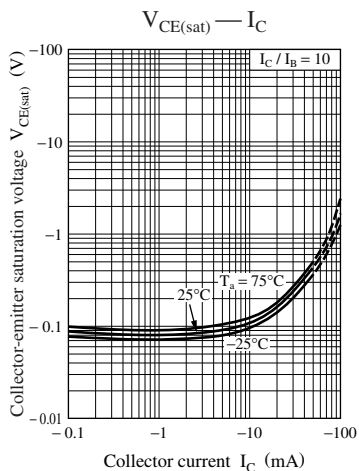
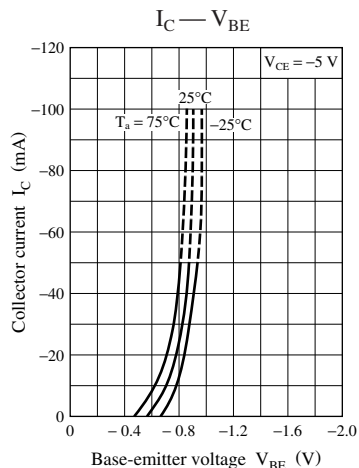
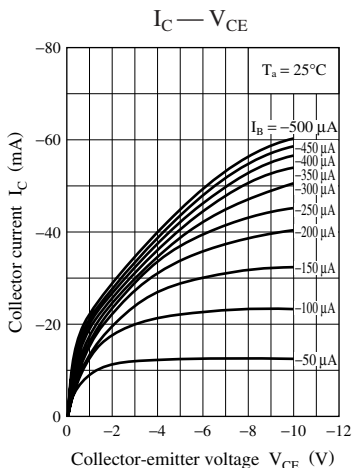
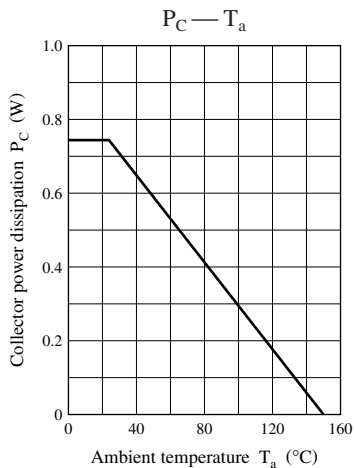
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -100 \mu\text{A}$ , $I_B = 0$	-150			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = -10 \mu\text{A}$ , $I_C = 0$	-5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -100 \text{V}$ , $I_E = 0$			-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)	$C_{ob}$	$V_{CB} = -10 \text{V}$ , $I_E = 0$ , $f = 1 \text{MHz}$			5	pF
Noise voltage	NV	$V_{CE} = -40 \text{V}$ , $I_C = -1 \text{mA}$ , $G_V = 80 \text{dB}$ $R_g = 100 \text{k}\Omega$ , Function = FLAT		150	300	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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