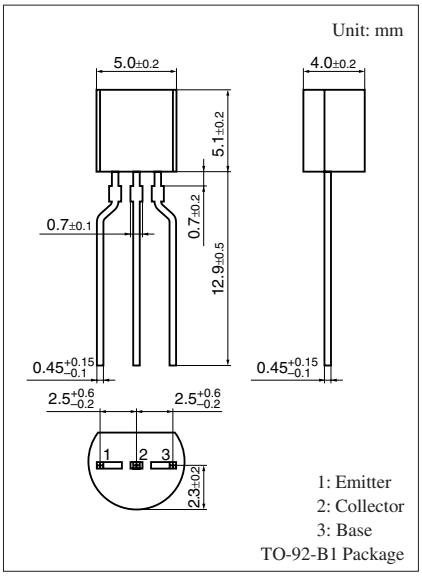
2SA1123

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 $T_a = 25°C$

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	°C
Storage temperature	T_{stg}	−55 to +150	°C

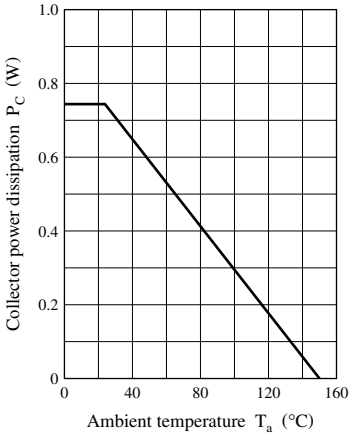
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -100$ μA, $I_B = 0$	−150			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10$ μA, $I_C = 0$	−5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -100$ V, $I_E = 0$			−1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -5$ V, $I_C = -10$ mA	130		450	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -30$ mA, $I_B = -3$ mA			−1	V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 10$ mA, f = 200 MHz		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz			5	pF
Noise voltage	NV	$V_{CE} = -40$ V, $I_C = -1$ mA, $G_V = 80$ dB $R_g = 100$ kΩ, Function = FLAT		150	300	mV

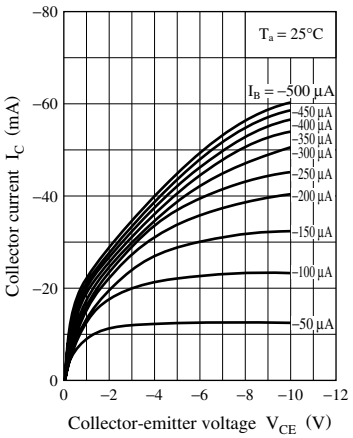
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

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

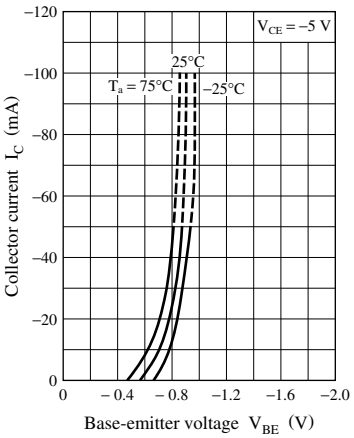
P_C — T_a



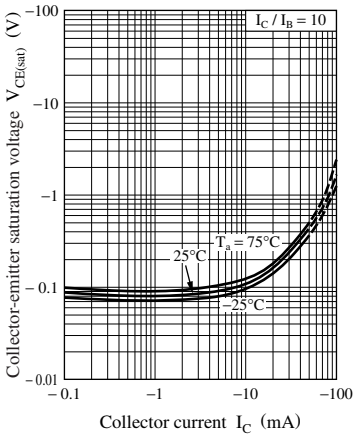
I_C — V_{CE}



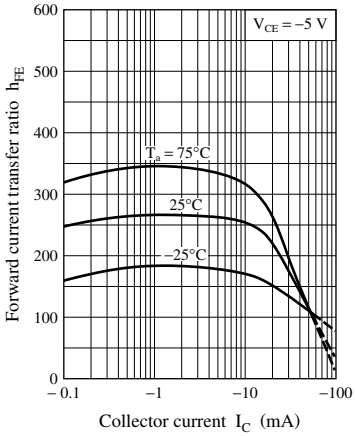
I_C — V_{BE}



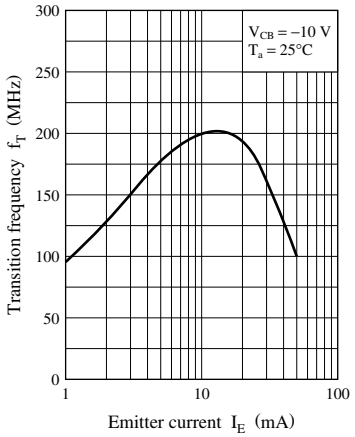
$V_{CE(sat)}$ — I_C



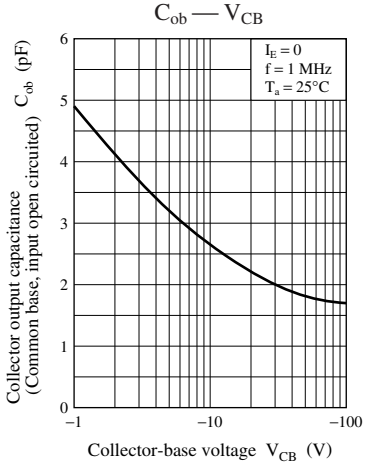
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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