

2SA1512

Silicon PNP epitaxial planar type

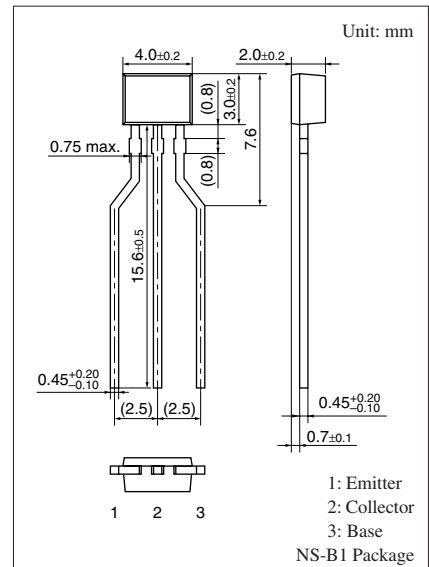
For low-frequency amplification

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Optimum for low-voltage operation and for converters
- Allowing supply with the radial taping
- Optimum for high-density mounting

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-25	V
Collector-emitter voltage (Base open)	V_{CEO}	-20	V
Emitter-base voltage (Collector open)	V_{EBO}	-7	V
Collector current	I_C	-0.5	A
Peak collector current	I_{CP}	-1	A
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



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

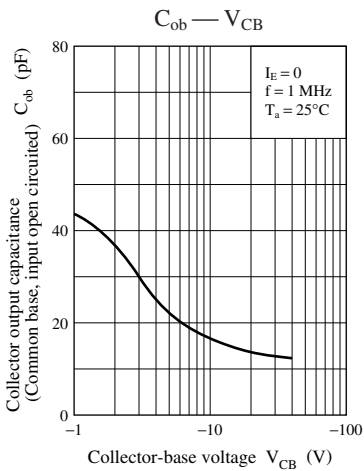
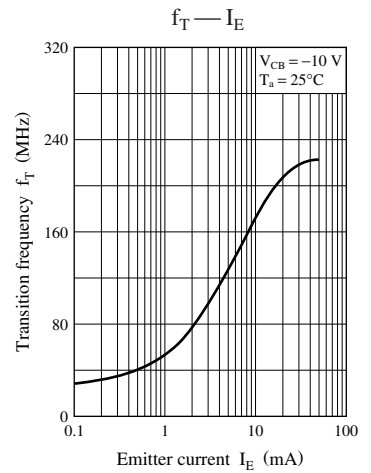
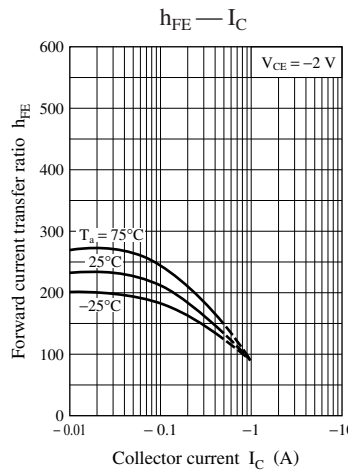
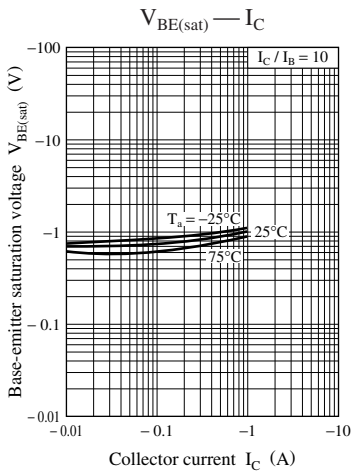
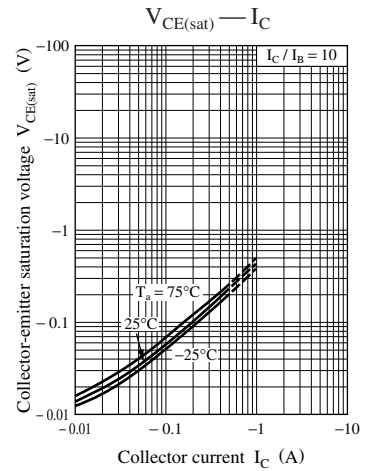
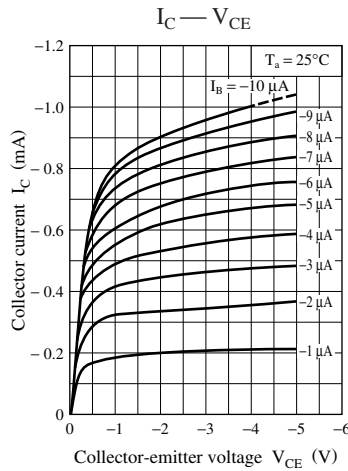
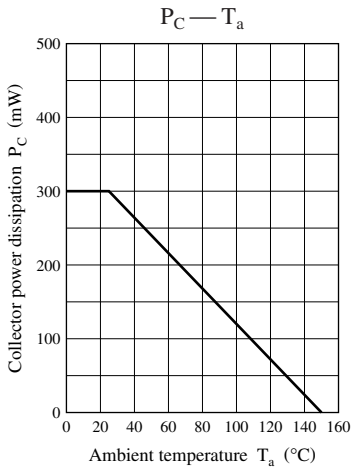
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = -10 \mu\text{A}$, $I_E = 0$	-25			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -1 \text{ mA}$, $I_B = 0$	-20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10 \mu\text{A}$, $I_C = 0$	-7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -25 \text{ V}$, $I_E = 0$			-100	nA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -20 \text{ V}$, $I_B = 0$			-1	μA
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = -2 \text{ V}$, $I_C = -0.5 \text{ A}$	90		220	—
	h_{FE2}	$V_{CE} = -2 \text{ V}$, $I_C = -1 \text{ A}$	25			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = -500 \text{ mA}$, $I_B = -50 \text{ mA}$			-0.4	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = -500 \text{ mA}$, $I_B = -50 \text{ mA}$			-1.2	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}$, $I_E = 50 \text{ mA}$, $f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		15	25	pF

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

2. *1: Pulse measurement

*2: Rank classification

Rank	Q	R
h_{FE1}	90 to 155	130 to 220



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