

2SD2504

Silicon NPN epitaxial planar type

For low-frequency power amplification

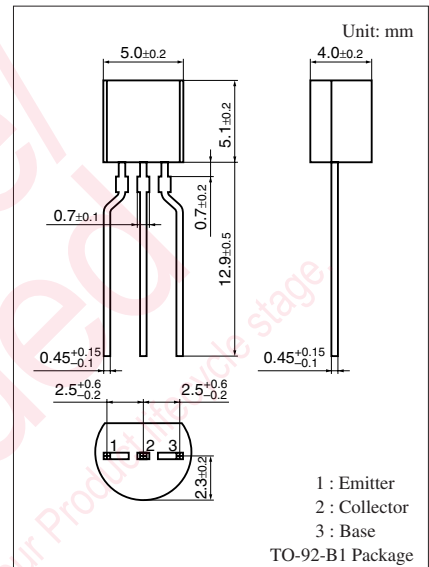
■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Large collector current I_C

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	15	V
Collector-emitter voltage (Base open)	V_{CEO}	10	V
Emitter-base voltage (Collector open)	V_{EBO}	10	V
Collector current	I_C	5	A
Peak collector current *	I_{CP}	9	A
Collector power dissipation	P_C	750	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $t = 380 \mu\text{s}$

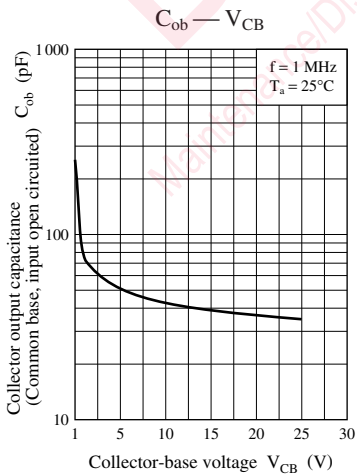
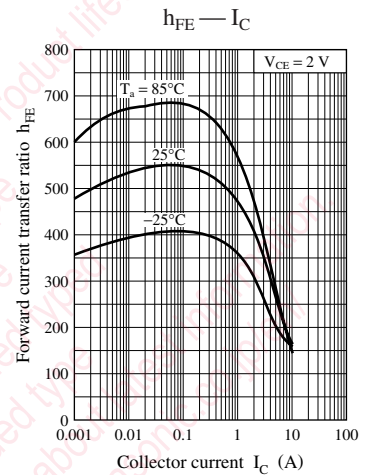
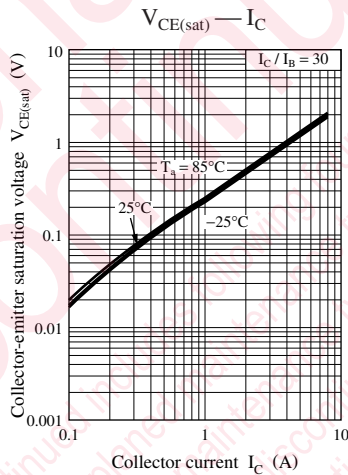
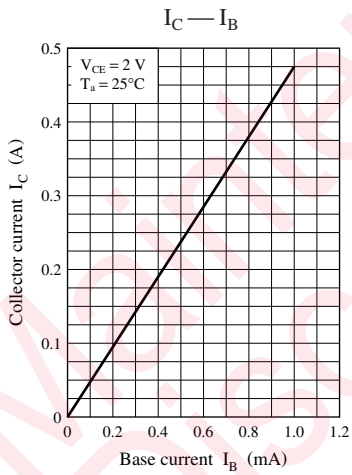
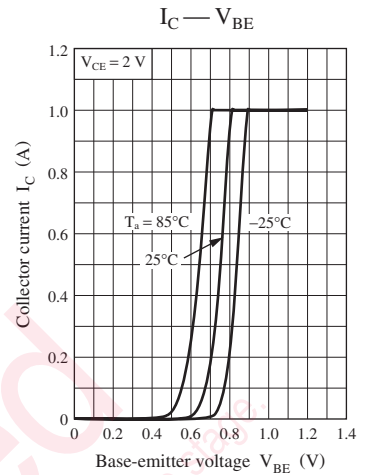
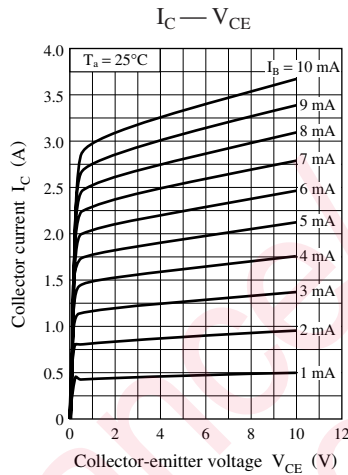
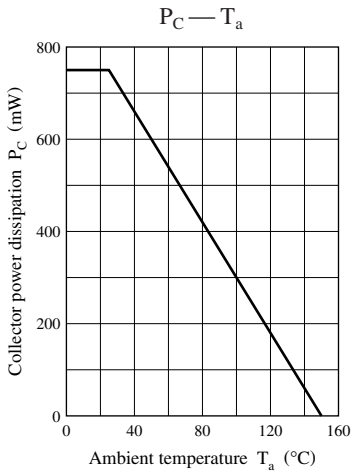


■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 1 \text{ mA}, I_E = 0$	10			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 10 \mu\text{A}, I_B = 0$	10			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10 \text{ V}, I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 5 \text{ V}, I_B = 0$			1.0	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 5 \text{ V}, I_E = 0$			0.1	μA
Forward current transfer ratio *	h_{FE1}	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	300		800	—
	h_{FE2}	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	195			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.1 \text{ A}$		0.28	0.50	V
Transition frequency	f_T	$V_{CB} = 6 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		170		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		45	65	pF

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

2. *: Pulse measurement



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