

2SC1509

Silicon NPN epitaxial planar type

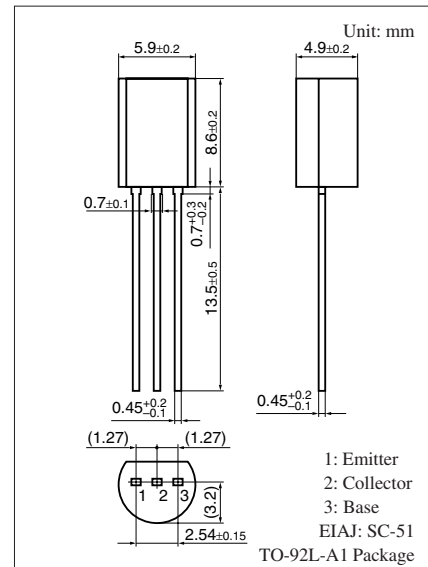
For low-frequency driver amplification
Complementary to 2SA0777 (2SA777)

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Optimum for the driver stage of a low-frequency and 25 W to 30 W output amplifier

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	80	V
Collector-emitter voltage (Base open)	V_{CEO}	80	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	0.5	A
Peak collector current	I_{CP}	1	A
Collector power dissipation	P_C	750	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



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

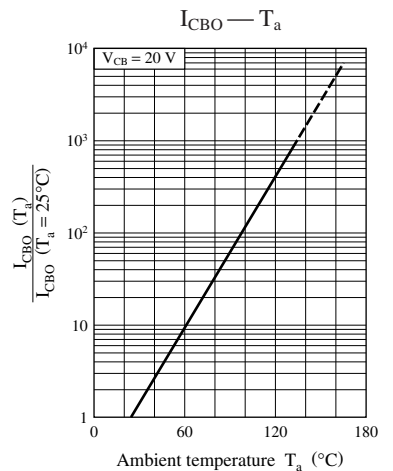
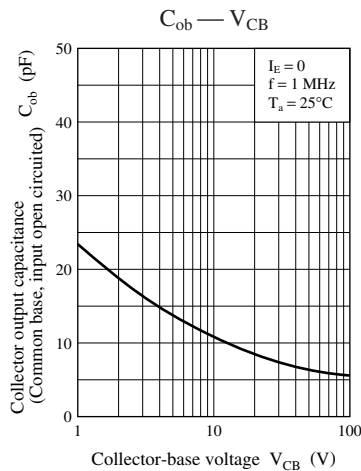
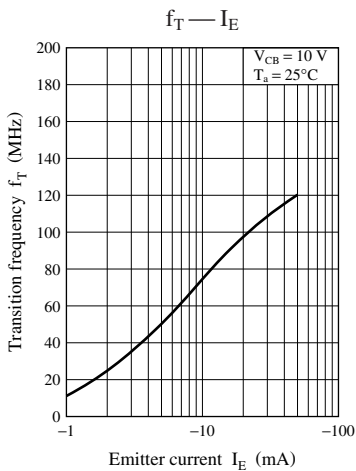
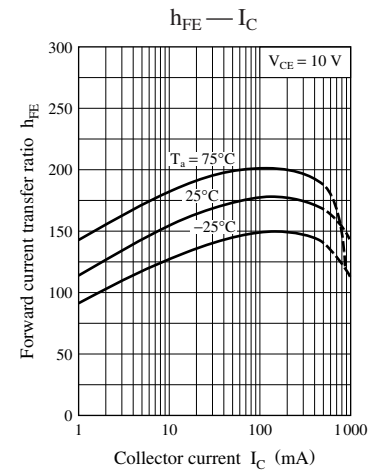
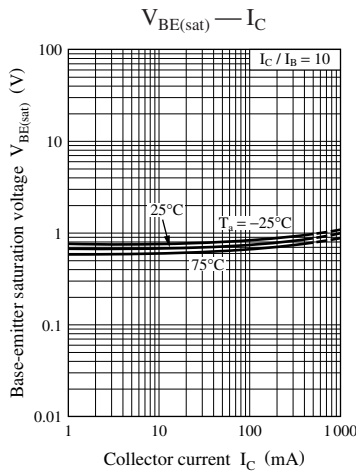
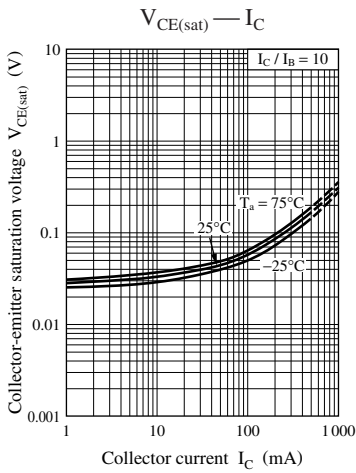
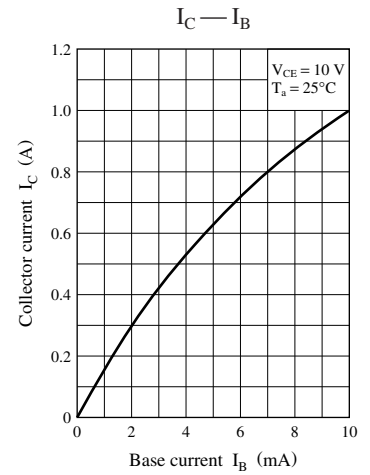
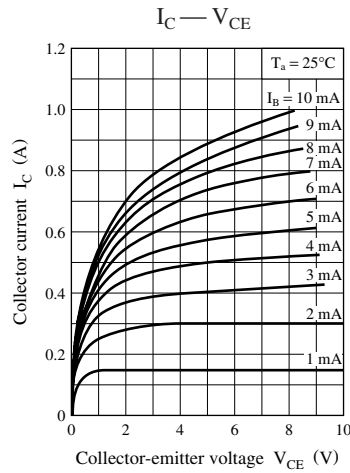
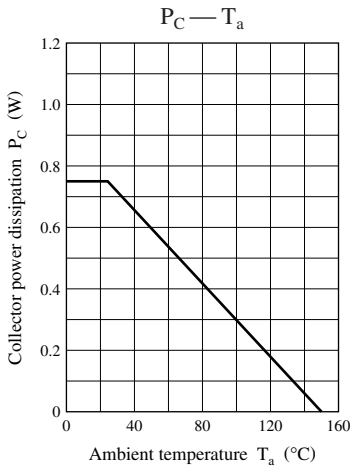
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	80			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 100 \mu\text{A}, I_B = 0$	80			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20 \text{V}, I_E = 0$			0.1	μA
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = 10 \text{V}, I_C = 150 \text{mA}$	130		330	—
	h_{FE2}	$V_{CE} = 5 \text{V}, I_C = 500 \text{mA}$	50	100		—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$		0.2	0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$		0.85	1.2	V
Transition frequency	f_T	$V_{CB} = 10 \text{V}, I_E = -50 \text{mA}, f = 200 \text{MHz}$		120		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		11	20	pF

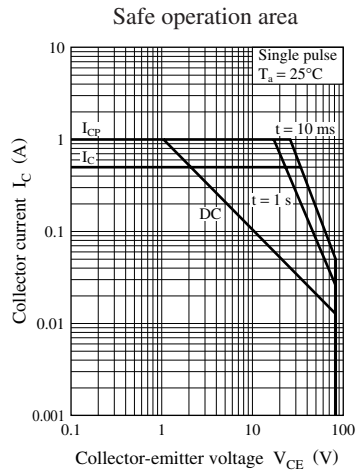
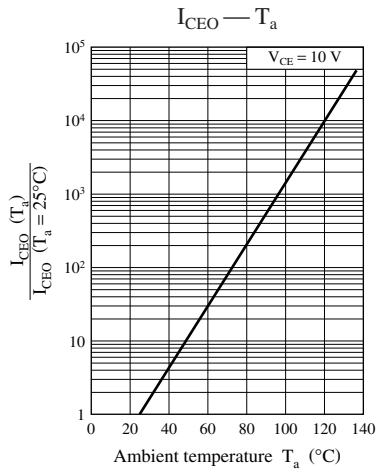
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	R	S
h_{FE1}	130 to 220	185 to 330

Note) The part number in the parenthesis shows conventional part number.





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