

2SB1693

Silicon PNP epitaxial planar type

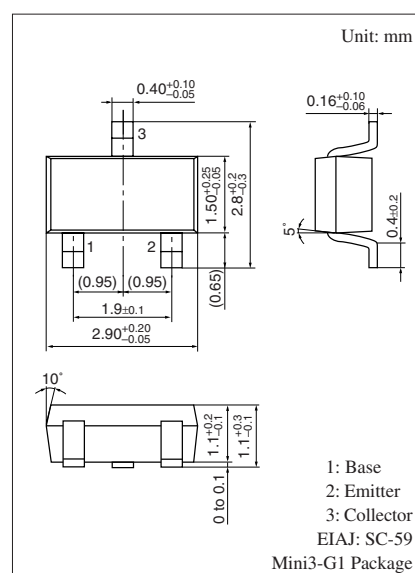
For general amplification

■ Features

- Large collector current I_C
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-40	V
Collector-emitter voltage (Base open)	V_{CEO}	-20	V
Emitter-base voltage (Collector open)	V_{EBO}	-15	V
Collector current	I_C	-0.5	A
Peak collector current	I_{CP}	-1	A
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



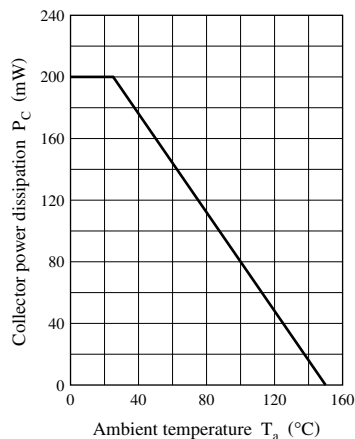
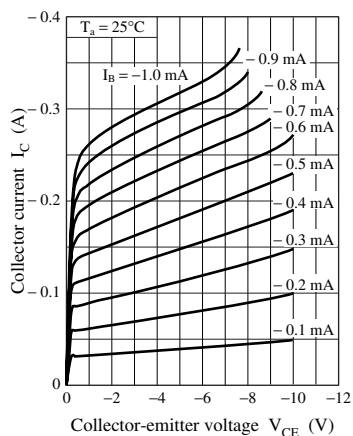
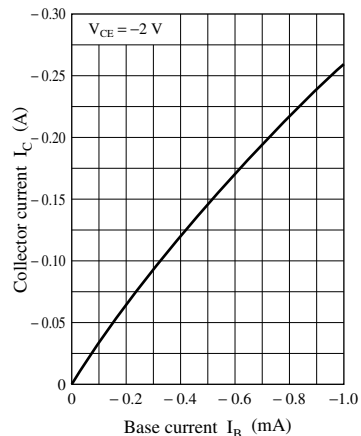
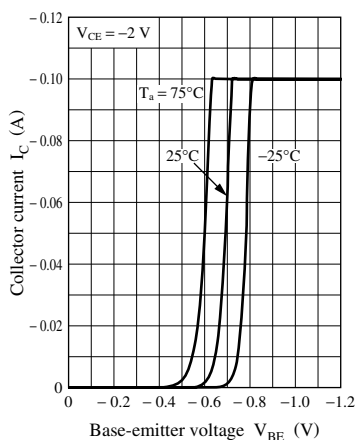
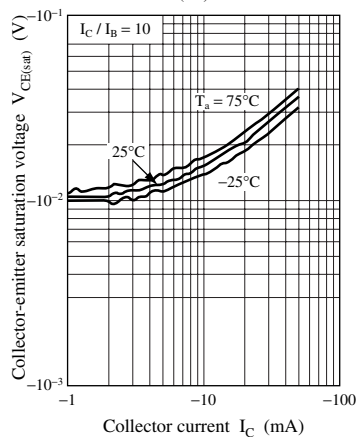
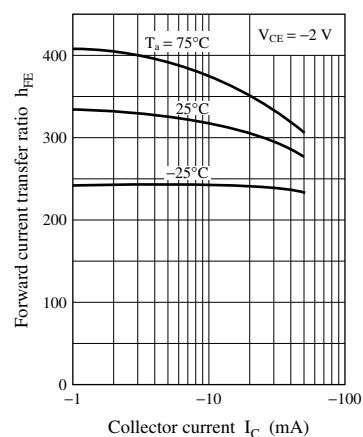
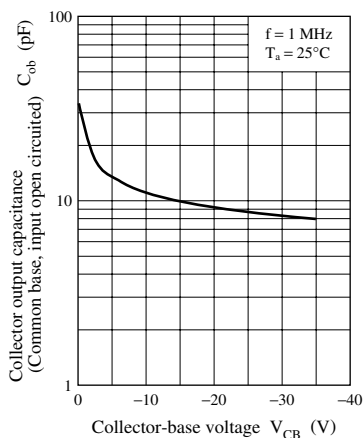
Marking Symbol: 3D

■ 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}	$I_C = -10 \mu\text{A}$, $I_E = 0$	-40			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -2 \text{ mA}$, $I_B = 0$	-20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10 \mu\text{A}$, $I_C = 0$	-15			V
Forward current transfer ratio *	h_{FE1}	$V_{CE} = -2 \text{ V}$, $I_C = -100 \text{ mA}$	160		560	—
	h_{FE2}	$V_{CE} = -2 \text{ V}$, $I_C = -500 \text{ mA}$	100			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -100 \text{ mA}$, $I_B = -10 \text{ mA}$		-60	-300	mV
		$I_C = -0.5 \text{ A}$, $I_B = -25 \text{ mA}$		-210	-500	
Transition frequency	f_T	$V_{CB} = -5 \text{ V}$, $I_E = 50 \text{ mA}$, $f = 200 \text{ MHz}$		170		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		16		pF

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

2. *: Pulse measurement

$P_C - T_a$  $I_C - V_{CE}$  $I_C - I_B$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $C_{ob} - V_{CB}$ 

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