

2SB1699

Silicon PNP epitaxial planar type

For power amplification

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Mini Power 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}	-60	V
Collector-emitter voltage (Base open)	V_{CEO}	-60	V
Emitter-base voltage (Collector open)	V_{EBO}	-6	V
Collector current	I_C	-2	A
Peak collector current	I_{CP}	-4	A
Collector power dissipation *	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

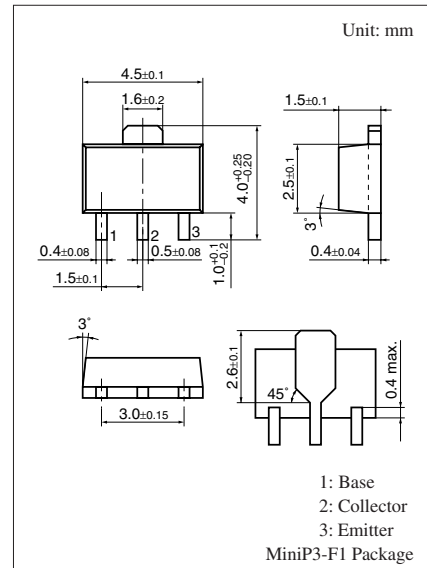
Note) *: Print circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

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

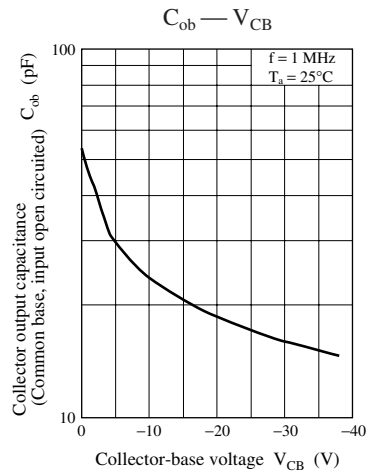
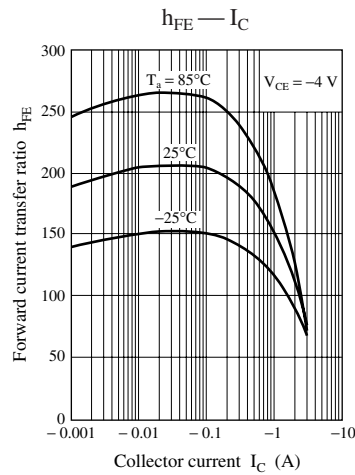
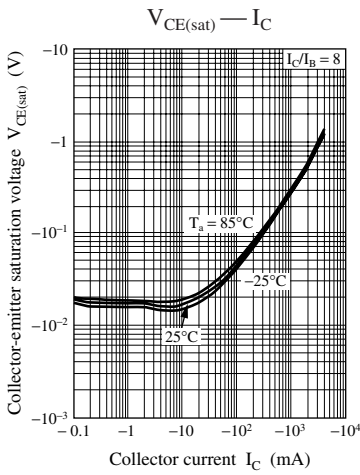
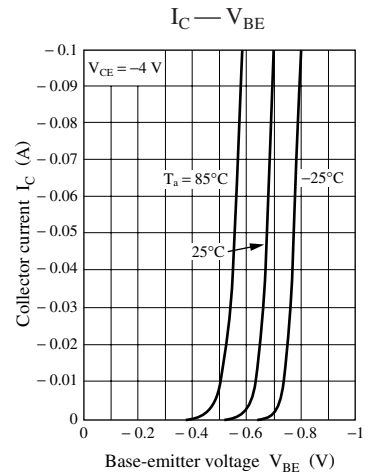
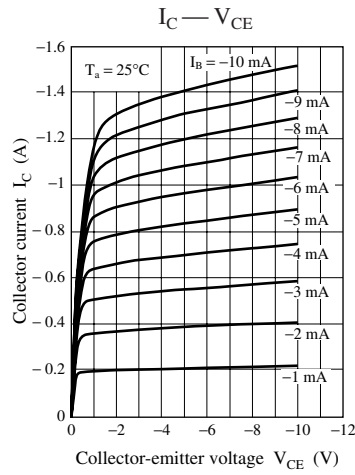
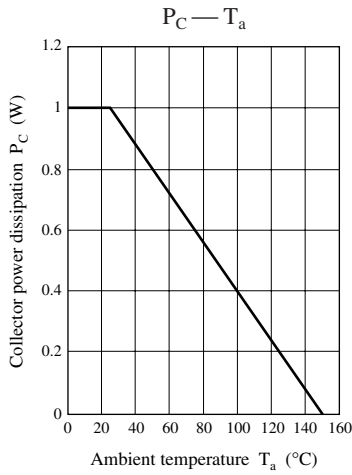
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -1 \text{ mA}, I_B = 0$	-60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -60 \text{ V}, I_E = 0$			-100	μA
Collector-emitter cut-off current (Base open)	I_{CEO}	$V_{CE} = -60 \text{ V}, I_B = 0$			-100	μA
Forward current transfer ratio *	h_{FE1}	$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}$	80		250	—
	h_{FE2}	$V_{CE} = -4 \text{ V}, I_C = -0.2 \text{ A}$	60			
	h_{FE3}	$V_{CE} = -4 \text{ V}, I_C = -2 \text{ A}$	30			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -2 \text{ A}, I_B = -250 \text{ mA}$			-0.5	V
Turn-on time	t_{on}	$I_C = -1 \text{ A}, I_{B1} = 0.1 \text{ A}$ $I_{B2} = -0.1 \text{ A}, V_{CC} = -50 \text{ V}$		0.2		μs
Storage time	t_{stg}			0.4		μs
Fall time	t_f			0.1		μs
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 50 \text{ mA}, f = 200 \text{ MHz}$		180		MHz

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

2. *: Pulse measurement



Marking Symbol: 3A



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