2SB1699

Silicon PNP epitaxial planar type

For power amplification

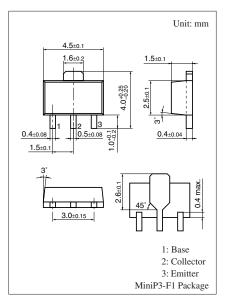
■ Features

- 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 $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V _{CBO}	V _{CBO} -60		
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	°C	
Storage temperature	T _{stg}	-55 to +150	°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



Marking Symbol: 3A

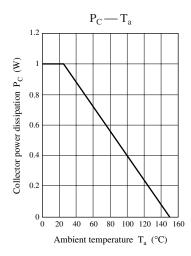
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

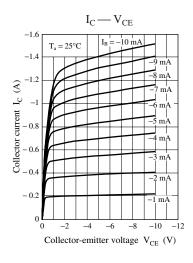
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = -1 \text{ mA}, I_B = 0$	-60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -60 \text{ V}, I_E = 0$			-100	μΑ
Collector-emitter cut-off current (Base open)	I _{CEO}	$V_{CE} = -60 \text{ V}, I_{B} = 0$			-100	μΑ
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}	$I_C = -1 A, I_{B1} = 0.1 A$		0.2		μs
Storage time	t _{stg}	$I_{B2} = -0.1 \text{ A}, V_{CC} = -50 \text{ V}$		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

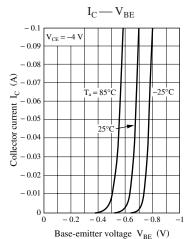
 $Note) \ 1. \ Measuring \ methods \ are \ based \ on \ JAPANESE \ INDUSTRIAL \ STANDARD \ JIS \ C \ 7030 \ measuring \ methods \ for \ transistors.$

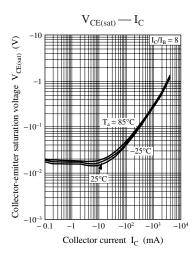
2. *: Pulse measurement

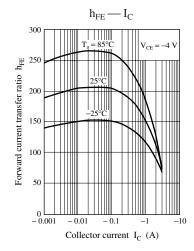
2SB1699 Panasonic

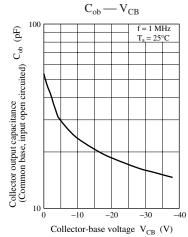












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