

2SB1169, 2SB1169A

Silicon PNP epitaxial planar type

For power amplification

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

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

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB1169	V_{CBO}	-60	V
	2SB1169A		-80	
Collector-emitter voltage (Base open)	2SB1169	V_{CEO}	-60	V
	2SB1169A		-80	
Emitter-base voltage (Collector open)		V_{EBO}	-5	V
Collector current		I_C	-1	A
Peak collector current		I_{CP}	-2	A
Collector power dissipation		P_C	15	W
			$T_a = 25^{\circ}\text{C}$	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

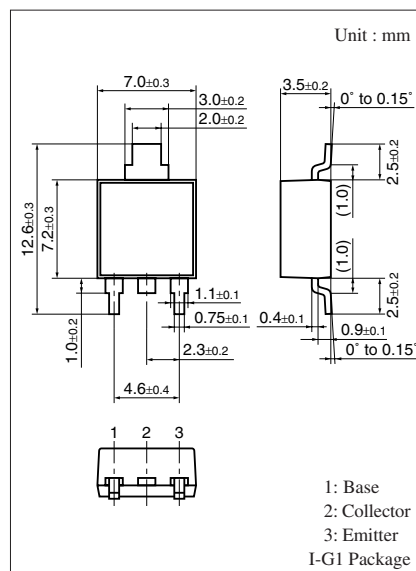
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB1169 2SB1169A	V_{CEO} $I_C = -30 \text{ mA}, I_B = 0$	-60			V
			-80			
Base-emitter voltage	V_{BE}	$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}$			-1.3	V
Collector-emitter cutoff current (E-B short)	2SB1169 2SB1169A	I_{CES} $V_{CE} = -60 \text{ V}, V_{BE} = 0$ $V_{CE} = -80 \text{ V}, V_{BE} = 0$			-200	μA
					-200	
Collector-emitter cutoff current (Base open)	2SB1169 2SB1169A	I_{CEO} $V_{CE} = -30 \text{ V}, I_B = 0$ $V_{CE} = -60 \text{ V}, I_B = 0$			-300	μA
					-300	
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5 \text{ V}, I_C = 0$			-1	mA
Forward current transfer ratio	h_{FE1}^* h_{FE2}	$V_{CE} = -4 \text{ V}, I_C = -0.2 \text{ A}$ $V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}$	40		450	—
			15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1 \text{ A}, I_B = -0.125 \text{ A}$			-1	V
Transition frequency	f_T	$V_{CE} = -10 \text{ V}, I_C = -0.5 \text{ A}, f = 10 \text{ MHz}$		40		MHz
Turn-on time	t_{on}	$I_C = -1 \text{ A}, I_{B1} = -50 \text{ mA}, I_{B2} = 50 \text{ mA}$ $V_{CC} = -50 \text{ V}$		0.5		μs
Storage time	t_{stg}			1.2		μs
Fall time	t_f			0.3		μs

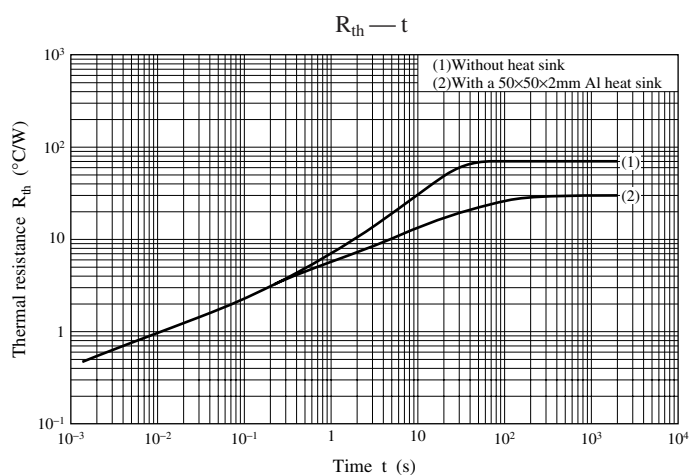
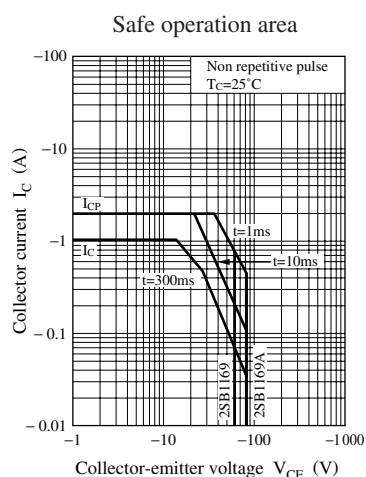
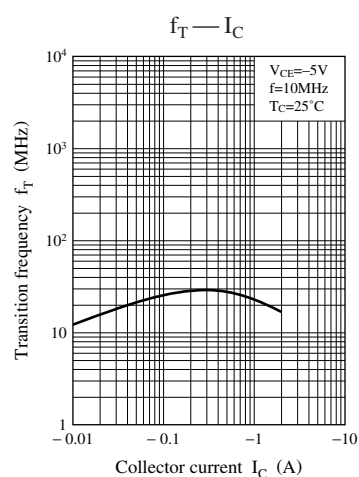
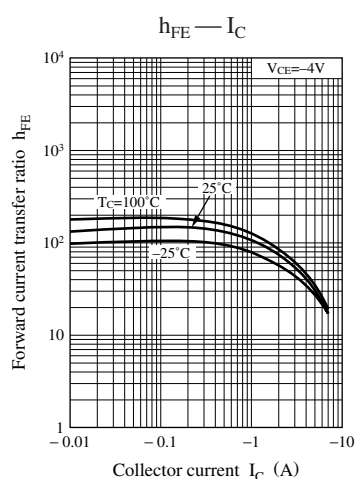
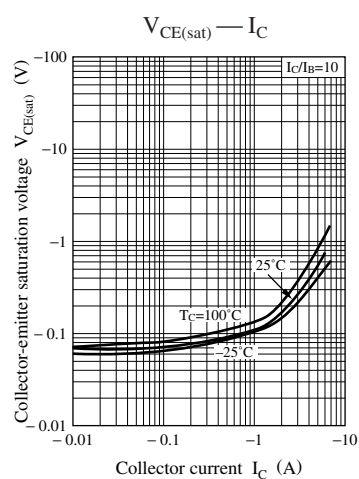
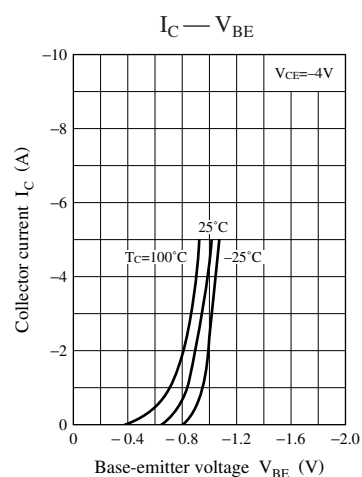
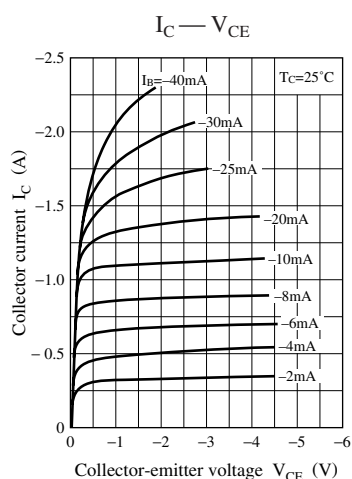
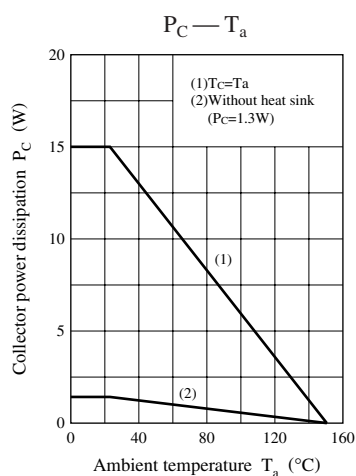
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	R	Q	P	O
h_{FE1}	40 to 90	70 to 150	120 to 250	200 to 450



Note) Self-supported type package is also prepared.



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