

SILICON POWER TRANSISTOR 2SB1094

PNP SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIER

FEATURES

- The 2SB1094 features ratings covering a wide range of applications and is ideal for power supplies or a variety of drives in audio and other equipment.:
- $V_{CEO} \geq -60\text{ V}$, $V_{EBO} \geq -7.0\text{ V}$, $I_{C(DC)} \leq -3.0\text{ A}$
- Mold package that does not require an insulating board or insulation bushing
- Complementary transistor with 2SD1585

QUALITY GRADES

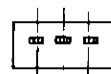
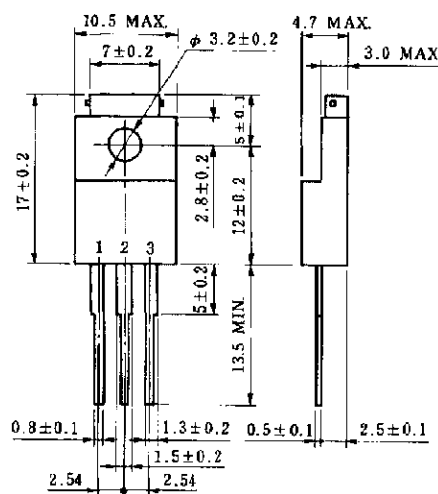
- Standard
- Please refer to "Quality Grades on NEC Semiconductor Devices" (Document No. C11531E) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-60	V
Collector to emitter voltage	V_{CEO}	-60	V
Emitter to base voltage	V_{EBO}	-7.0	V
Collector current (DC)	$I_{C(DC)}$	-3.0	A
Collector current (pulse)	$I_{C(pulse)}^*$	-5.0	A
Base current (DC)	$I_{B(DC)}$	-0.6	A
Total power dissipation	$P_T (T_c = 25^\circ\text{C})$	15	W
Total power dissipation	$P_T (T_a = 25^\circ\text{C})$	2.0	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10\text{ ms}$, duty cycle $\leq 50\%$

PACKAGE DRAWING (UNIT: mm)



Electrode Connection
1. Base
2. Collector
3. Emitter

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Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

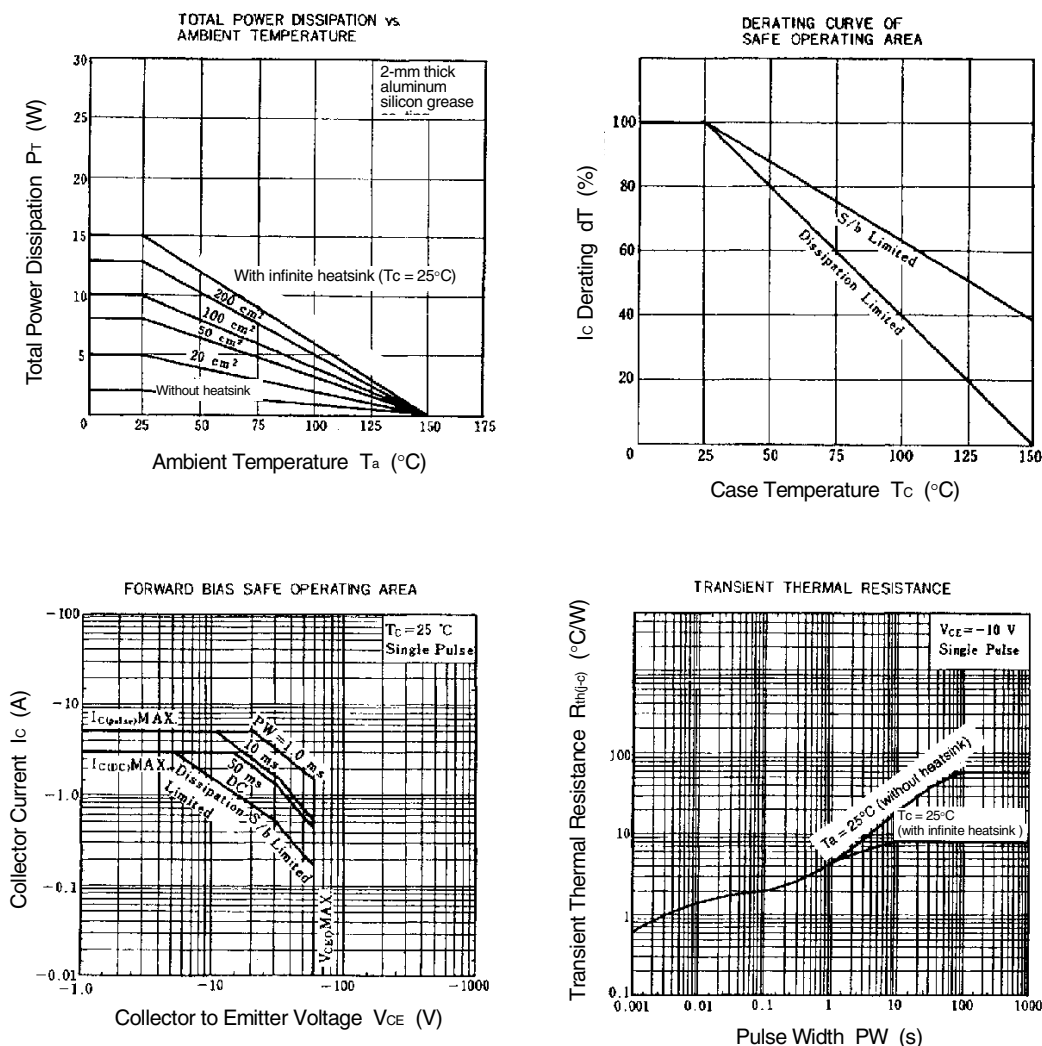
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -60\text{ V}, I_E = 0$			-10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -7.0\text{ V}, I_C = 0$			-10	μA
DC current gain	h_{FE1}^{**}	$V_{CE} = -5.0\text{ V}, I_C = -50\text{ mA}$	20			
DC current gain	h_{FE2}^{**}	$V_{CE} = -5.0\text{ V}, I_C = -0.5\text{ A}$	40	100	200	
Collector saturation voltage	$V_{CE(sat)}^{**}$	$I_C = -2.0\text{ A}, I_B = -0.2\text{ A}$		-0.5	-1.5	V
Base saturation voltage	$V_{BE(sat)}^{**}$	$I_C = -2.0\text{ A}, I_B = -0.2\text{ A}$		-1.1	-2.0	V
Collector capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		70		pF
Gain bandwidth product	f_T	$V_{CE} = -5.0\text{ V}, I_C = -0.1\text{ A}$		20		MHz

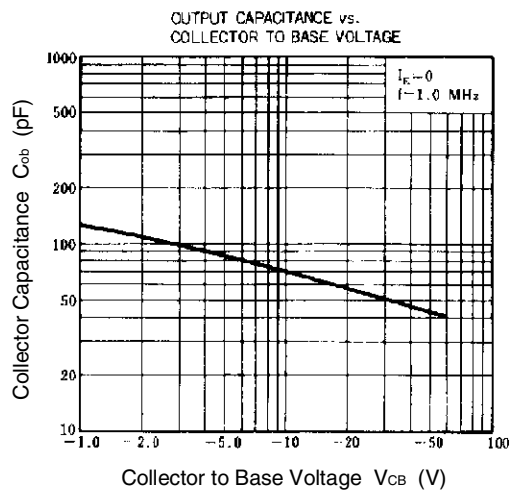
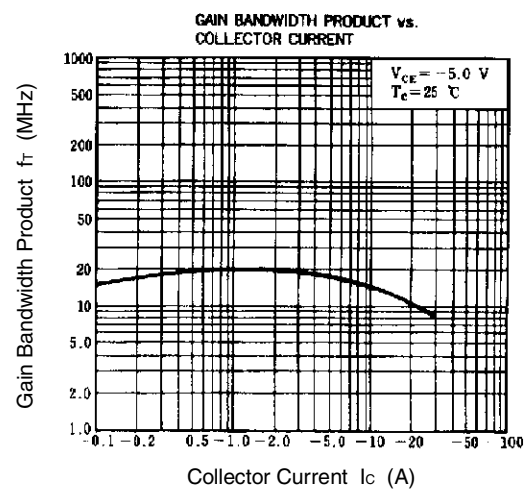
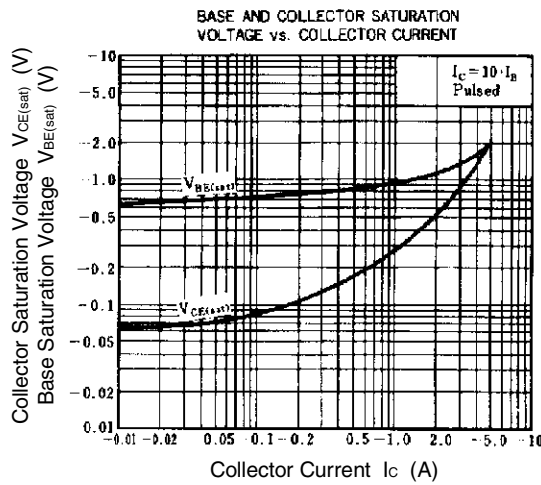
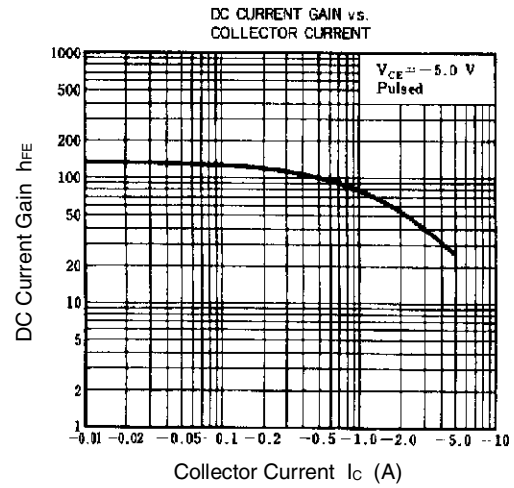
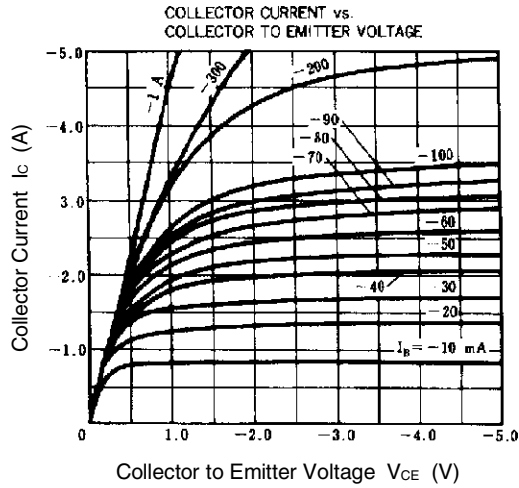
** Pulse test $PW \leq 350\text{ }\mu\text{s}$, duty cycle $\leq 2\%$

h_{FE} CLASSIFICATION

Marking	M	L	K
h_{FE2}	40 to 80	60 to 120	100 to 200

TYPICAL CHARACTERISTICS (Ta = 25°C)





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