

SILICON POWER TRANSISTOR 2SD1588

NPN SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS AND LOW-SPEED SWITCHING

FEATURES

- Mold package that does not require an insulating board or insulation bushing
- Large current capacity in small dimension: $I_{C(DC)} = 7\text{ A}$
- Low collector saturation voltage: $V_{CE(sat)} = 0.5\text{ V MAX. (@ } 5\text{ A)}$
- Ideal for use in ramp drivers or inductance drivers
- Complementary transistor: 2SB1097

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	7.0	V
Collector current (DC)	$I_{C(DC)}$	7.0	A
Collector current (Pulse)	$I_{C(pulse)^*}$	15	A
Base current (DC)	$I_{B(DC)}$	3.5	A
Total power dissipation	$P_T (T_C = 25^\circ\text{C})$	30	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	$^\circ\text{C}$

* $PW \leq 300\ \mu\text{s}$, duty cycle $\leq 10\%$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

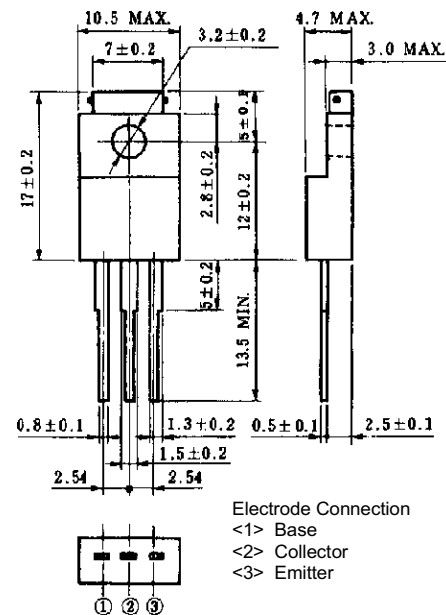
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 80\text{ V}, I_E = 0$			10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5.0\text{ V}, I_C = 0$			10	μA
DC current gain	h_{FE1}^{**}	$V_{CE} = 1.0\text{ V}, I_C = 3\text{ A}$	40		200	
DC current gain	h_{FE2}^{**}	$V_{CE} = 1.0\text{ V}, I_C = 5\text{ A}$	20			
Collector saturation voltage	$V_{CE(sat)}^{**}$	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$			0.5	V
Base saturation voltage	$V_{BE(sat)}^{**}$	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$			1.5	V

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

h_{FE} CLASSIFICATION

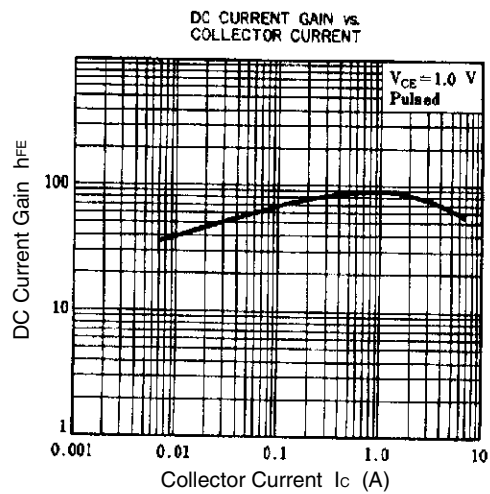
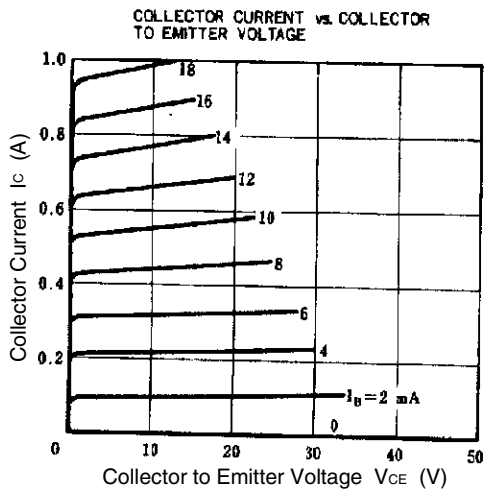
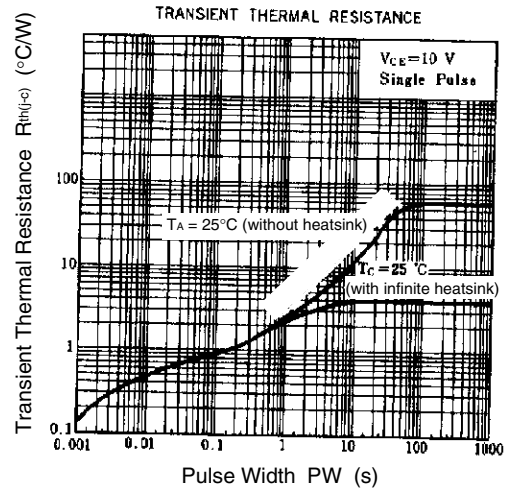
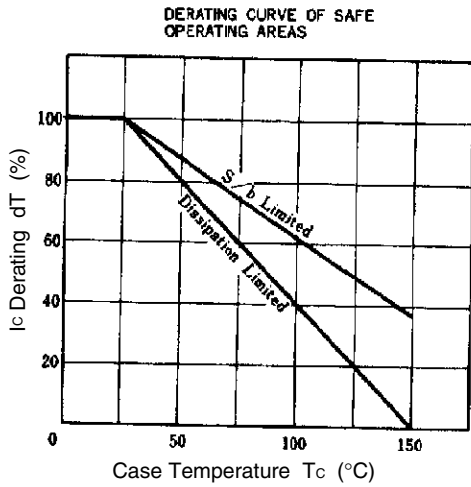
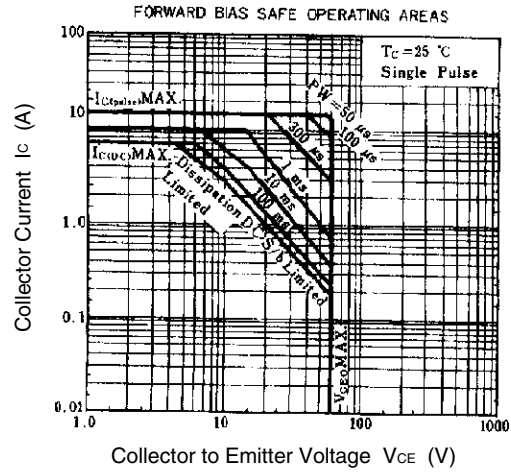
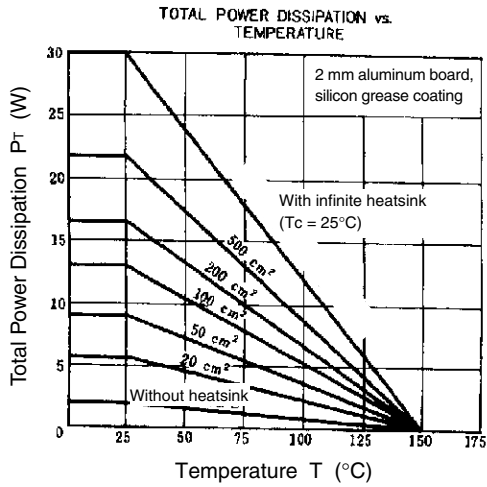
Marking	M	L	K
h_{FE1}	40 to 80	60 to 120	100 to 200

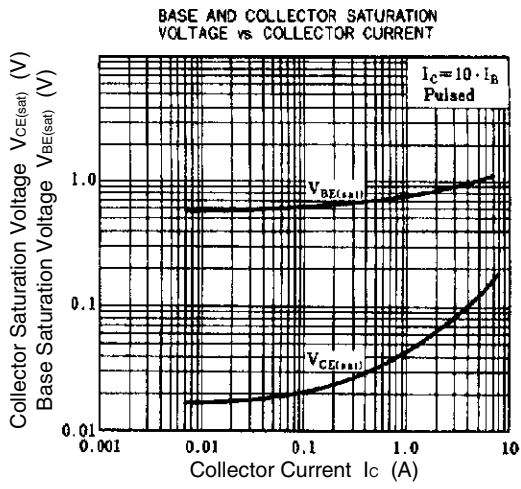
PACKAGE DRAWING (UNIT: mm)



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TYPICAL CHARACTERISTICS (T_A = 25°C)





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