

### PNP 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 lamp drivers or inductance drivers
- Complementary transistor: 2SD1588

#### ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-80	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	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

#### ELECTRICAL CHARACTERISTICS (Ta = 25°C)

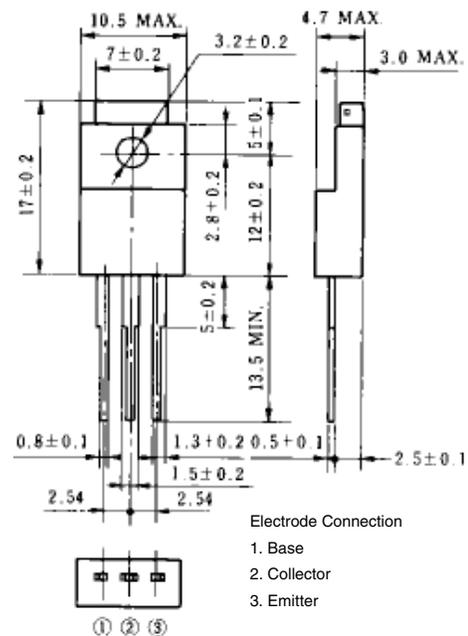
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -60\text{ V}, I_E = 0$			-10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5.0\text{ V}, I_C = 0$			-10	$\mu\text{A}$
DC current gain	$h_{FE1}^{**}$	$V_{CE} = -1.0\text{ V}, I_C = -3\text{ A}$	40		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  $\leq 2\%/pulsed$

#### hFE CLASSIFICATION

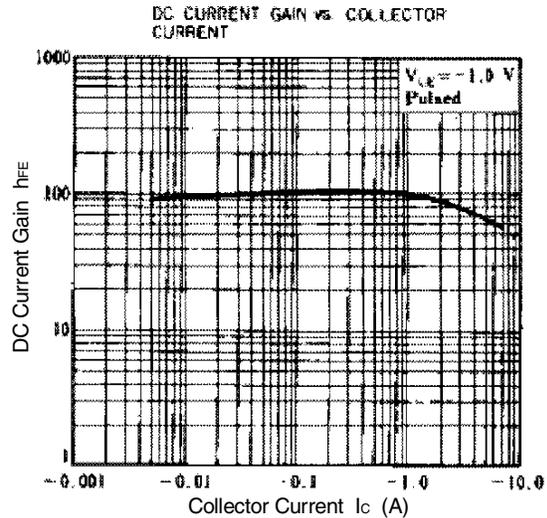
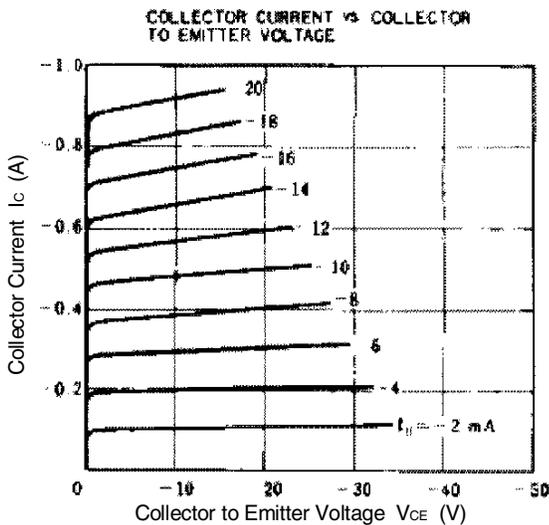
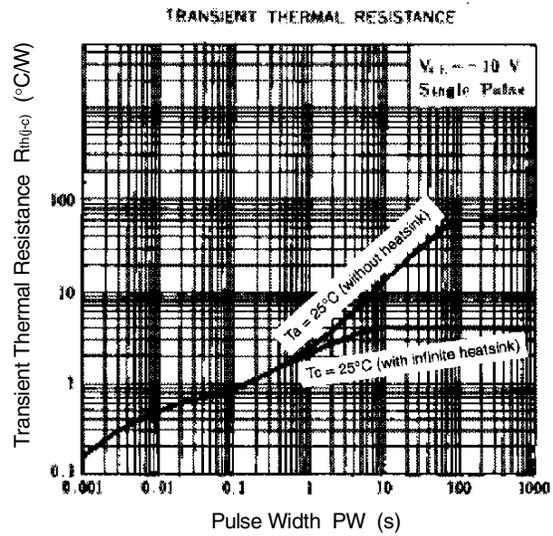
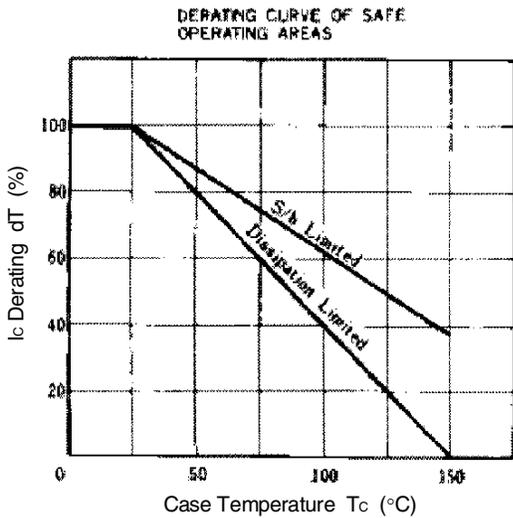
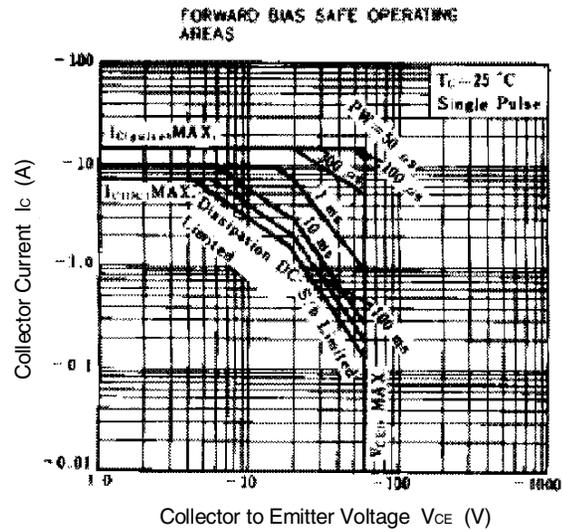
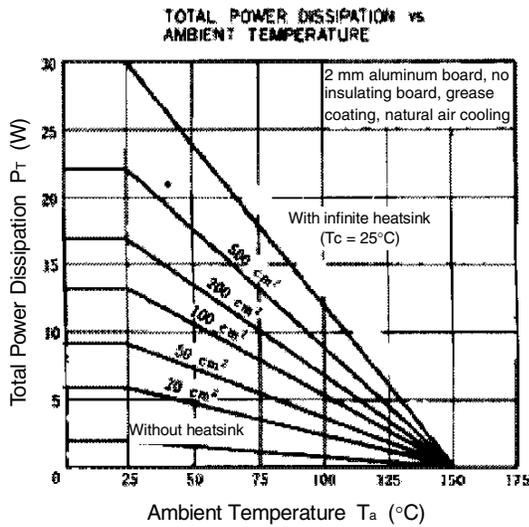
Marking	M	L	K
$h_{FE1}$	40 to 80	60 to 120	100 to 200

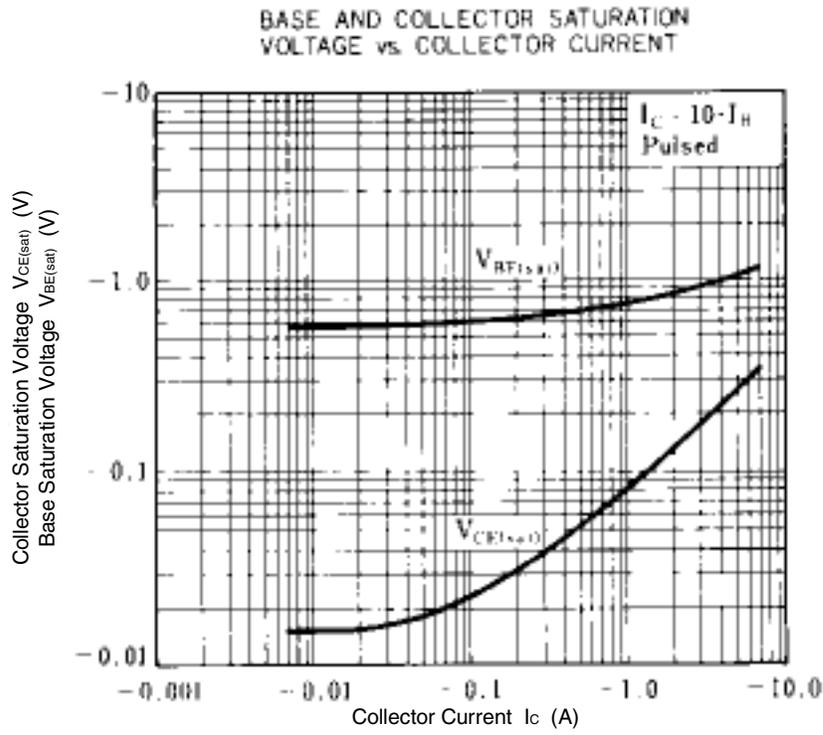
#### PACKAGE DRAWING (UNIT: mm)



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TYPICAL CHARACTERISTICS (Ta = 25°C)





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