



SILICON PLANAR EPITAXIAL TRANSISTOR

N-P-N transistor in a TO-39 metal envelope primarily intended for use as a print hammer drive. It has good high current saturation characteristics.

QUICK REFERENCE DATA

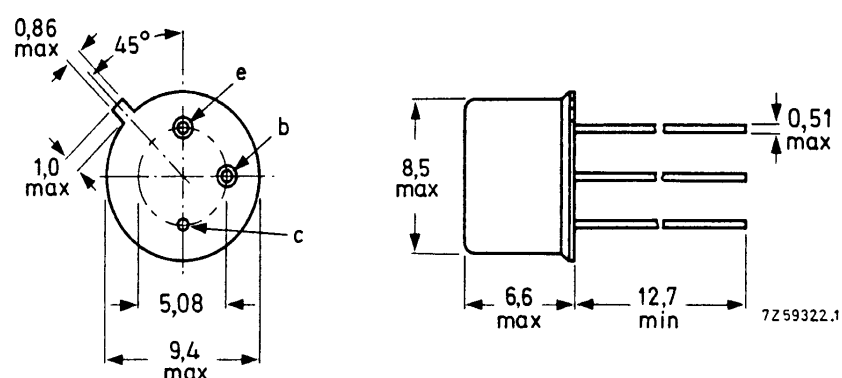
Collector-base voltage (open emitter)	V_{CBO}	max.	100 V
Collector-emitter voltage (open base)	V_{CEO}	max.	60 V
Collector current (peak value)	I_{CM}	max.	5,0 A
Total power dissipation up to $T_{case} = 50\text{ }^{\circ}\text{C}$	P_{tot}	max.	5,0 W
Junction temperature	T_j	max.	175 $^{\circ}\text{C}$
D.C. current gain $I_C = 2\text{ A}; V_{CE} = 2\text{ V}$	h_{FE}	>	40
Transition frequency at $f = 35\text{ MHz}$ $I_C = 0,5\text{ A}; V_{CE} = 5\text{ V}$	f_T	typ.	100 MHz
Turn-off time when switched from $I_{Con} = 5\text{ A}; I_{Bon} = 0,5\text{ A}$ to cut-off with $-I_{Boff} = 0,5\text{ A}$	t_{off}	<	1,2 μs

MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-39.

Collector connected to case



Maximum lead diameter is guaranteed only for 12,7 mm.

Accessories: 56245 (distance disc).

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Collector-base voltage (open emitter)	V_{CBO}	max.	100 V
Collector emitter voltage ($R_{BE} \leq 50 \Omega$)	V_{CER}	max.	80 V
Collector emitter voltage (open base)	V_{CEO}	max.	60 V
Emitter base voltage (open collector)	V_{EBO}	max.	5 V
Collector current (d.c.)	I_C	max.	2,0 A
Collector current (peak value)	I_{CM}	max.	5,0 A
Base current (d.c.)	I_B	max.	1,0 A
Total power dissipation up to $T_{case} = 50 \text{ }^\circ\text{C}$	P_{tot}	max.	5,0 W
Storage temperature	T_{stg}		-55 to +175 $^\circ\text{C}$
Junction temperature	T_j	max.	175 $^\circ\text{C}$

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$	=	25 K/W
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CHARACTERISTICS $T_j = 25 \text{ }^\circ\text{C}$

Collector cut-off current

 $I_E = 0; V_{CB} = 60 \text{ V}$ $I_{CBO} < 10 \mu\text{A}$

Emitter cut-off current

 $I_C = 0; V_{EB} = 4 \text{ V}$ $I_{EBO} < 10 \mu\text{A}$

Saturation voltages

 $I_C = 5 \text{ A}; I_B = 0,5 \text{ A}$ $V_{CEsat} < 1,0 \text{ V}$ $V_{BEsat} < 1,8 \text{ V}$

D.C. current gain

 $I_C = 2 \text{ A}; V_{CE} = 2 \text{ V}$ $h_{FE} > 40$ Collector capacitance at $f = 1 \text{ MHz}$ $I_E = I_e = 0; V_{CB} = 10 \text{ V}$ $C_c < 80 \text{ pF}$ Transition frequency at $f = 35 \text{ MHz}$ $I_C = 0,5 \text{ A}; V_{CE} = 5 \text{ V}$ $f_T \text{ typ. } 100 \text{ MHz}$

Switching times

 $I_{Con} = 5 \text{ A}; I_{Bon} = -I_{Boff} = 0,5 \text{ A}$ $-V_{BEoff} = 2 \text{ V}$

turn-on time

 $t_{on} < 0,6 \mu\text{s}$

turn-off time

 $t_{off} < 1,2 \mu\text{s}$

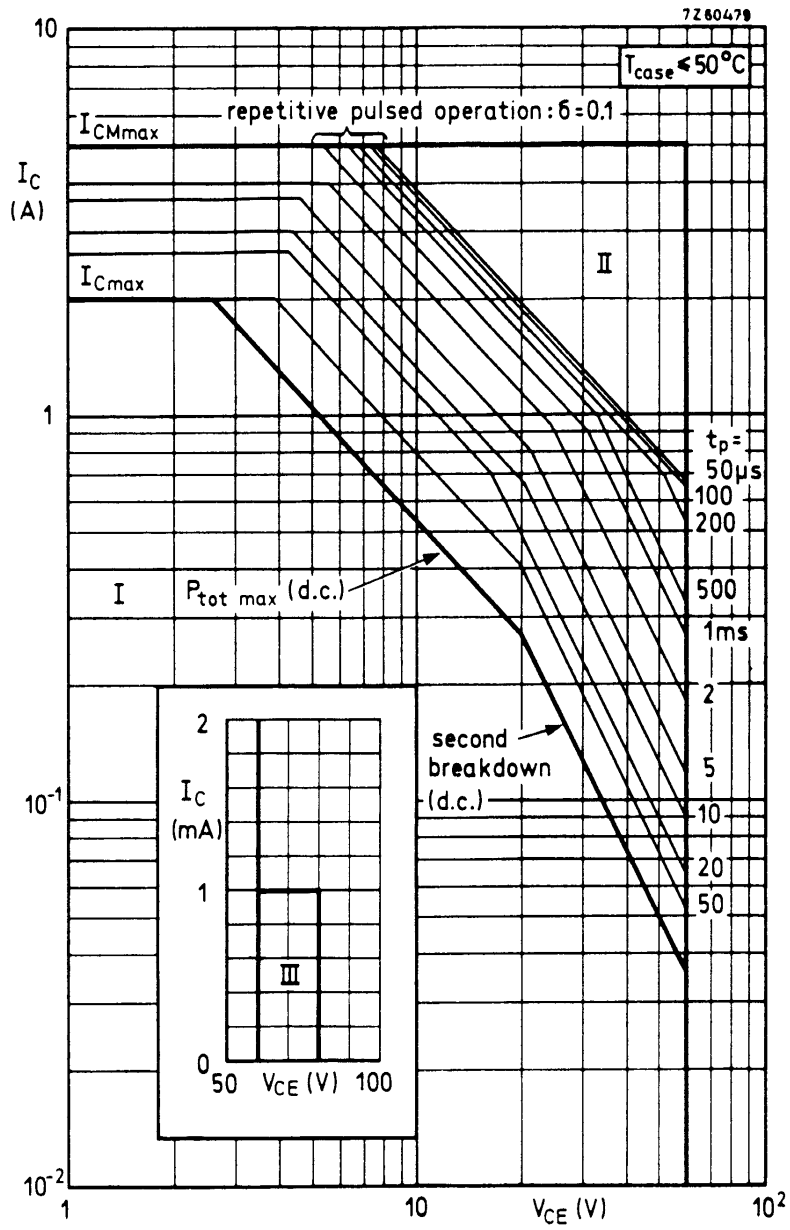


Fig. 2.

Safe Operating Area

- I Region of permissible d.c. operation
- II Permissible extension for repetitive pulsed operation
- III D.C. operation in this region is allowable, provided $R_{BE} \leq 50 \Omega$.

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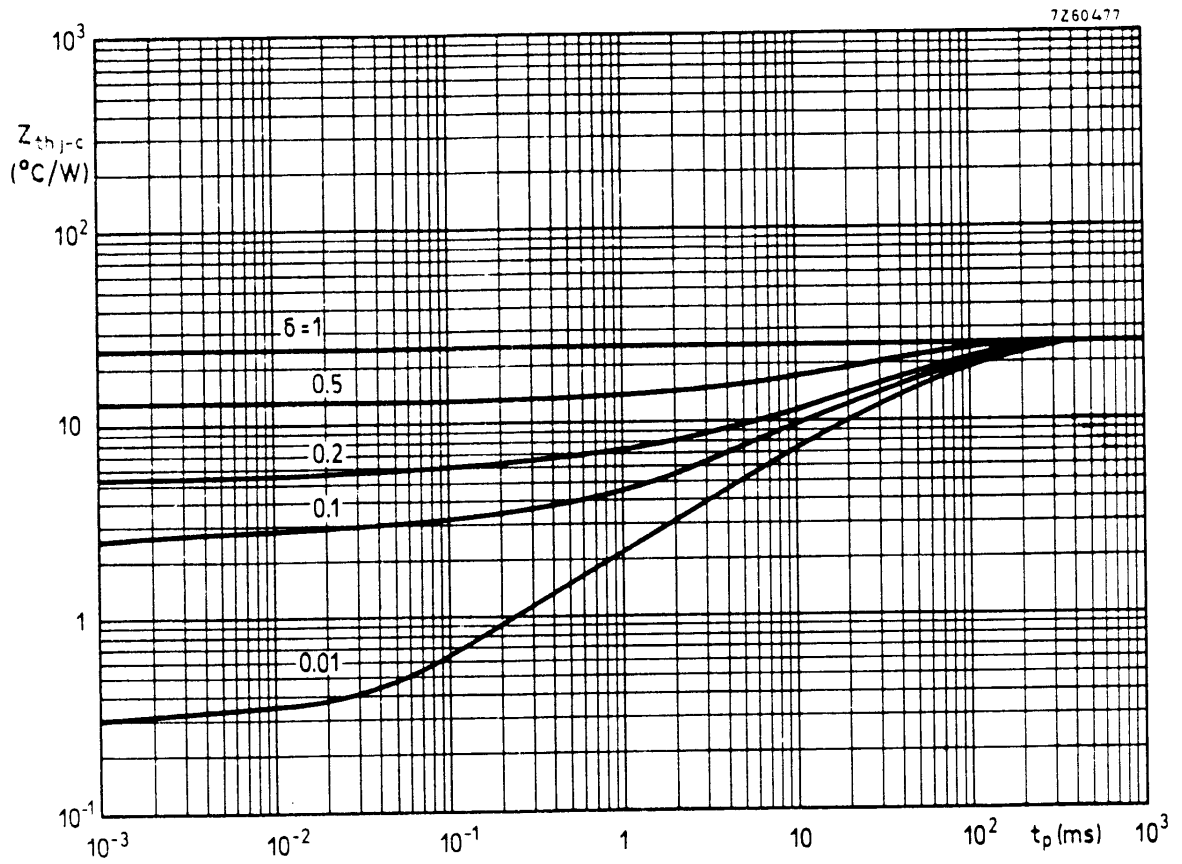


Fig. 3.

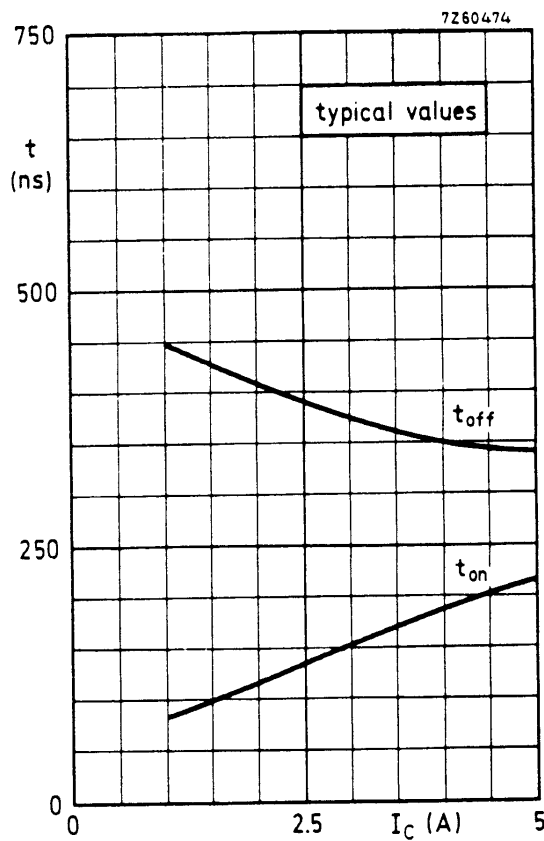


Fig. 4.

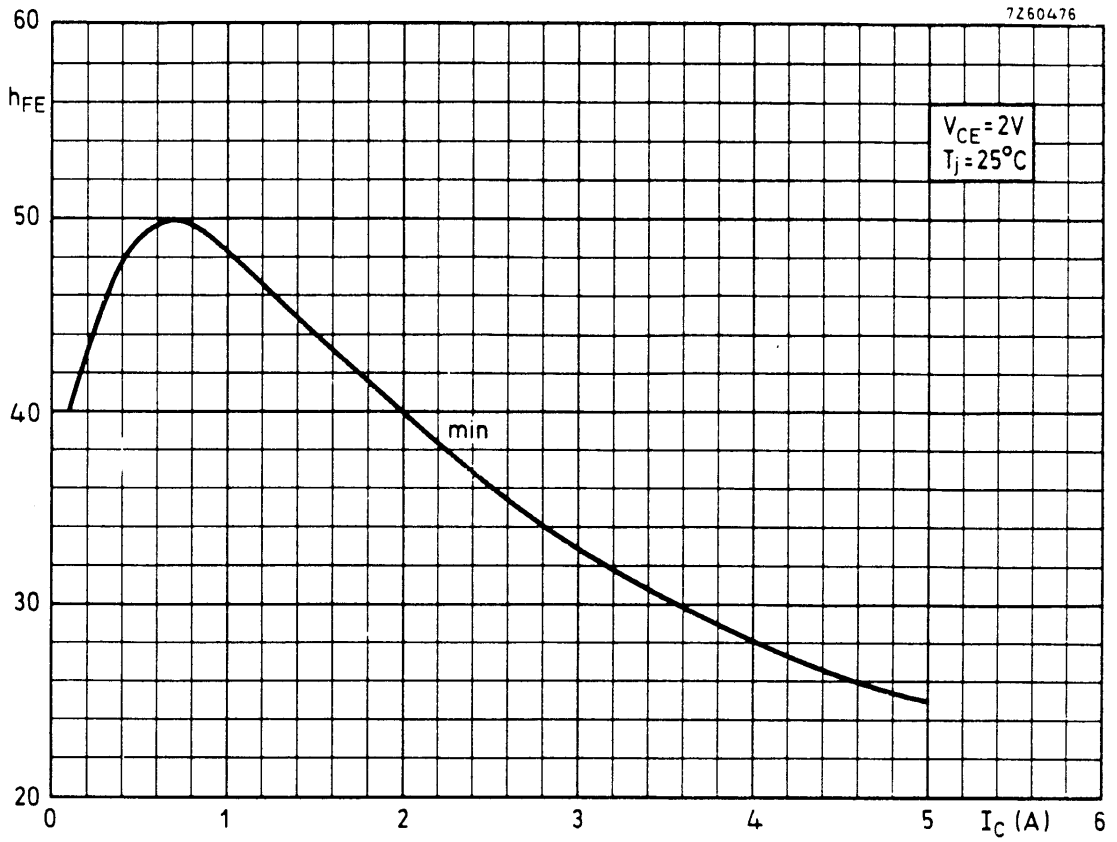


Fig. 5.

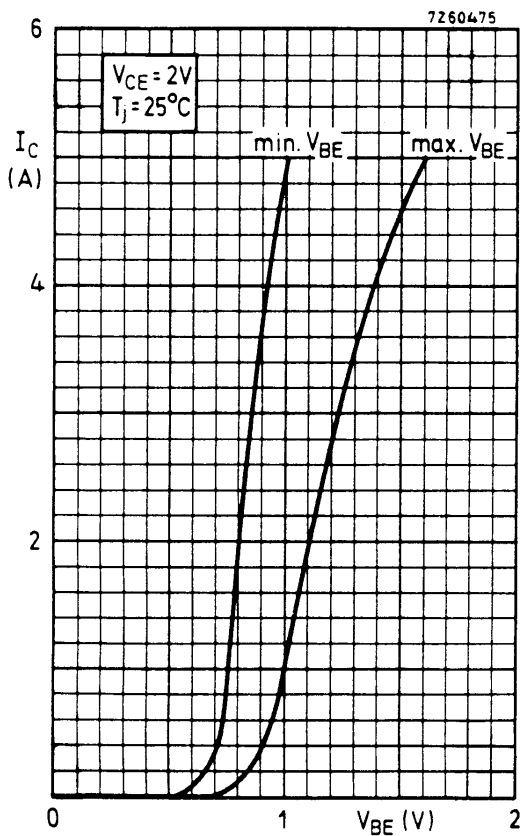


Fig. 6.

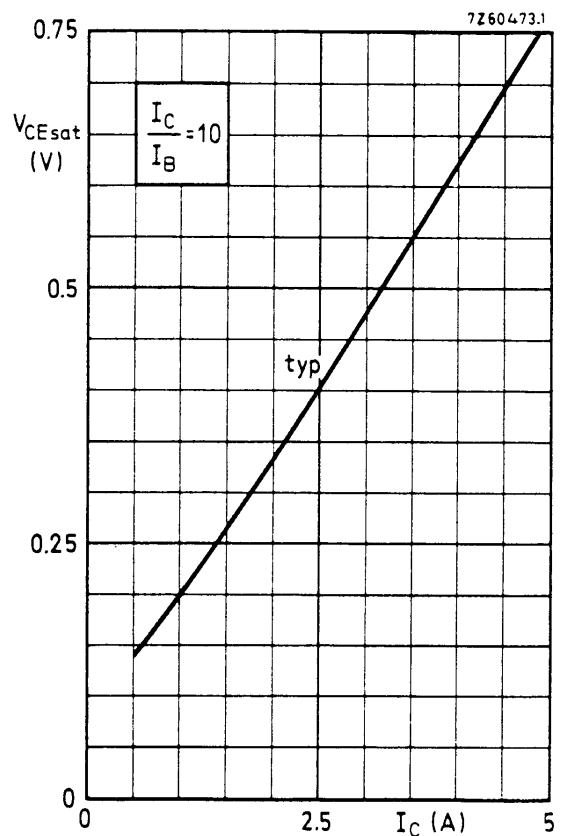


Fig. 7.

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