

## 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

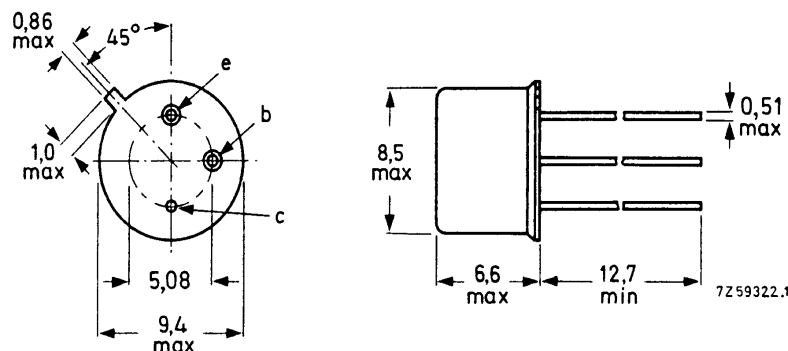
|  |           |      |                        |
|--|-----------|------|------------------------|
| Collector-base voltage (open emitter)  | $V_{CBO}$ | max. | 100 V                  |
| Collector-emitter voltage (open base)  | $V_{CEO}$ | max. | 60 V                   |
| Collector current (peak value)   | $I_{CM}$  | 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<br>$I_C = 2\text{ A}; V_{CE} = 2\text{ V}$   | $h_{FE}$  | >    | 40                     |
| Transition frequency at $f = 35\text{ MHz}$<br>$I_C = 0,5\text{ A}; V_{CE} = 5\text{ V}$   | $f_T$     | typ. | 100 MHz                |
| Turn-off time when switched from<br>$I_{Con} = 5\text{ A}; I_{Bon} = 0,5\text{ A}$ to cut-off<br>with $-I_{Boff} = 0,5\text{ A}$ | $t_{off}$ | <    | 1,2 $\mu\text{s}$      |

## 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)                                | $V_{CB0}$ | 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 |
|-----------------------|---------------|---|--------|

**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

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



BSV64

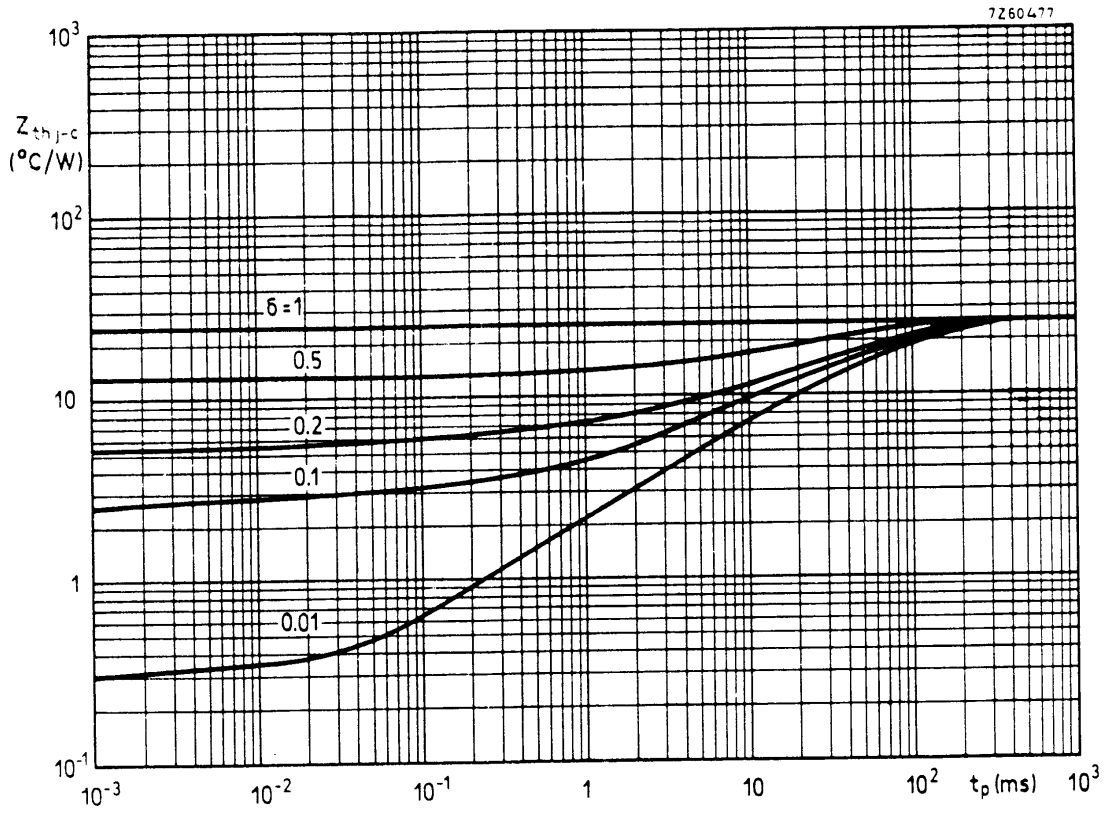


Fig. 3.

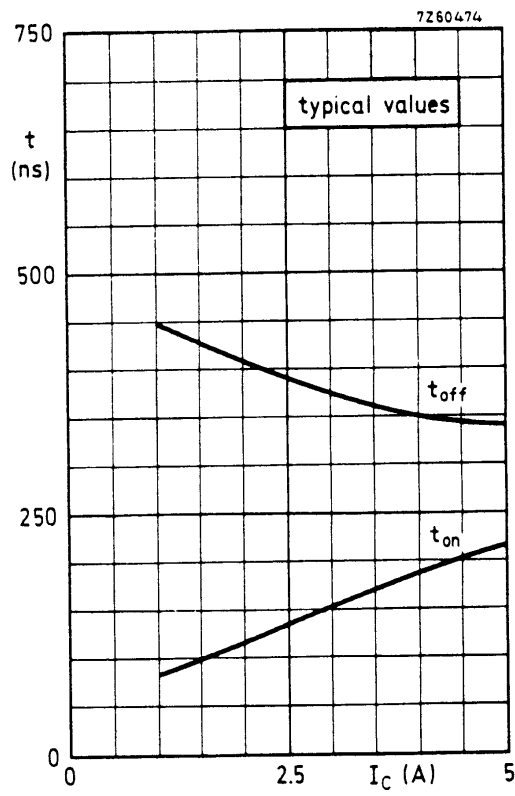


Fig. 4.

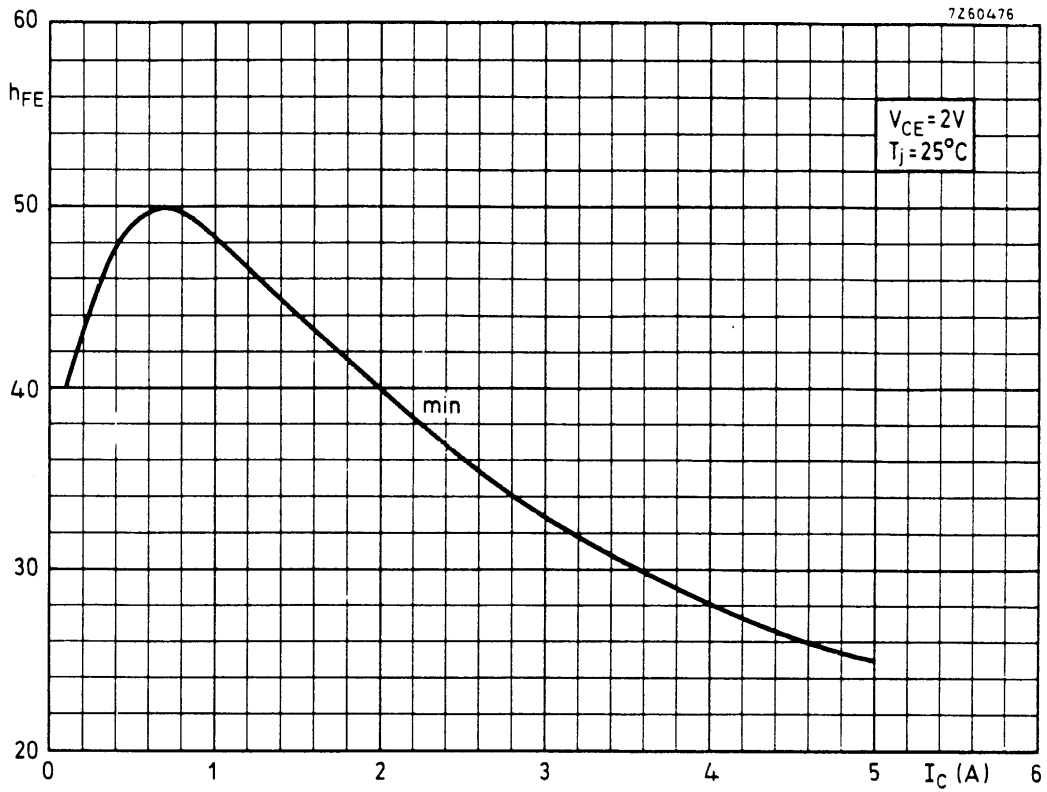


Fig. 5.

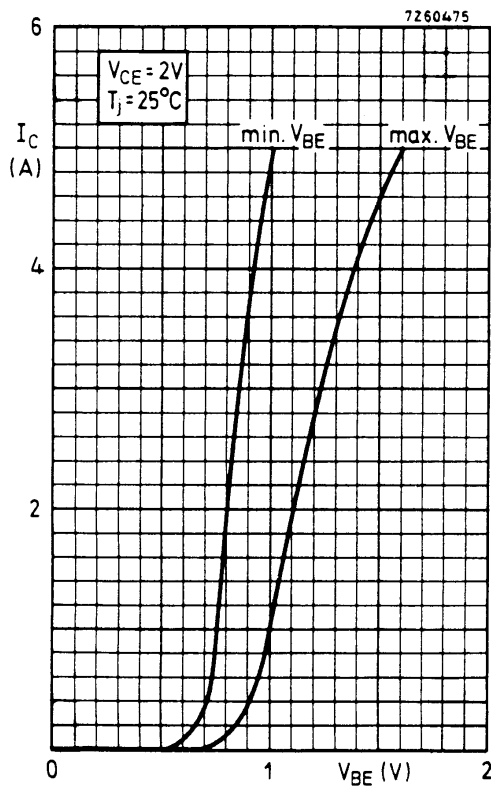


Fig. 6.

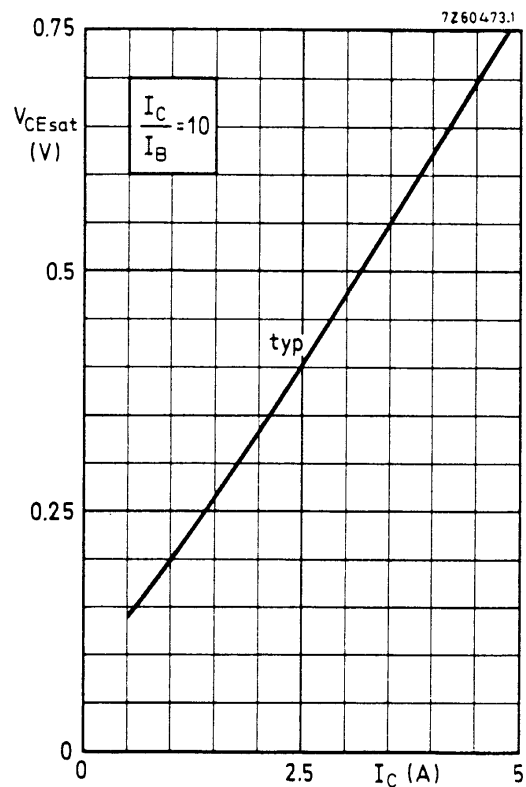


Fig. 7.