

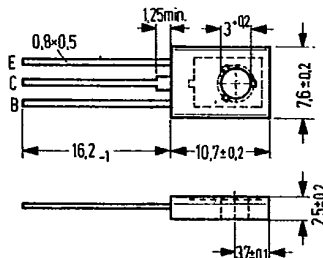
PNP Silicon Planar Transistors

BD 287  
BD 288

SIEMENS AKTIENGESELLSCHAFT 04342 D

BD 287 and BD 288 are epitaxial planar transistors in TO 126 plastic package (12 A 3 DIN 41869, sheet 4). The collector is electrically connected to the metallic mounting area. The transistors are particularly designed for switching applications in flash devices.

| Type          | Ordering code |
|---------------|---------------|
| BD 287        | Q62702-D900   |
| BD 288        | Q62702-D901   |
| Spring washer |               |
| A3 DIN 137    | Q62902-B63    |
| Mica washer   | Q62902-B62    |



Approx. weight 0.5 g Dimensions in mm  
Transistor fixing with M3 screw. Starting torque max. 0.8 Nm. Washer or spring washer should be used.

Maximum ratings ( $T_{amb} = 25^{\circ}\text{C}$ )

|                                                             |            |             |     |                    |
|-------------------------------------------------------------|------------|-------------|-----|--------------------|
| Collector-emitter voltage                                   | $-V_{CEO}$ | 25          | 45  | V                  |
| Collector-emitter voltage                                   | $-V_{CES}$ | 30          | 45  | V                  |
| Collector-base voltage                                      | $-V_{CBO}$ | 30          | 45  | V                  |
| Emitter-base voltage                                        | $-V_{EBO}$ | 5           | 5   | V                  |
| Collector current                                           | $-I_C$     | 12          | 12  | A                  |
| Collector peak current ( $t \leq 10$ ms)                    | $-I_{CM}$  | 15          | 15  | A                  |
| Emitter peak current                                        | $I_{EM}$   | 15          | 15  | A                  |
| Base current                                                | $-I_B$     | 2           | 2   | A                  |
| Base peak current                                           | $-I_{BM}$  | 5           | 5   | A                  |
| Junction temperature                                        | $T_j$      | 150         | 150 | $^{\circ}\text{C}$ |
| Storage temperature range                                   | $T_{stg}$  | -50 to +150 |     | $^{\circ}\text{C}$ |
| Total power dissipation ( $T_{case} = 25^{\circ}\text{C}$ ) | $P_{tot}$  | 36          | 36  | W                  |

Thermal resistance

|                           |            |            |            |     |
|---------------------------|------------|------------|------------|-----|
| Junction to ambient air   | $R_{thJA}$ | $\leq 100$ | $\leq 100$ | K/W |
| Junction to mounting area | $R_{thJC}$ | $\leq 3,5$ | $\leq 3,5$ | K/W |

Static characteristics ( $T_{amb} = 25^{\circ}\text{C}$ )

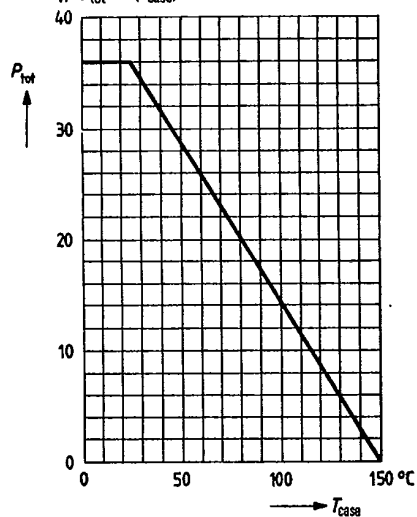
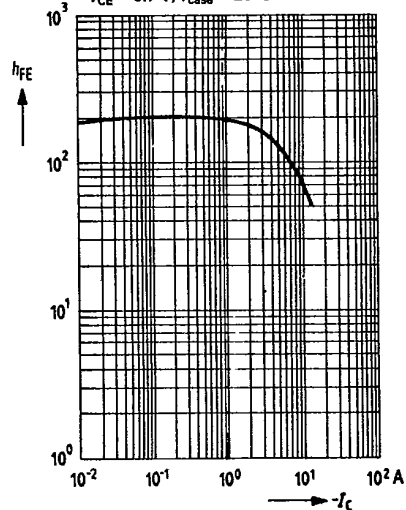
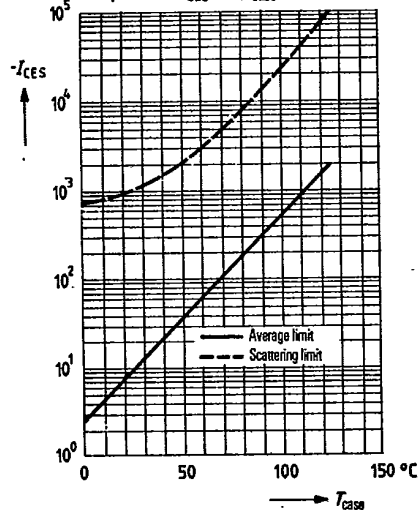
|                                                                                        |            | BD 287     | BD 288     |               |
|----------------------------------------------------------------------------------------|------------|------------|------------|---------------|
| Collector cutoff current<br>( $-V_{CE} = 30\text{ V}$ )                                | $-I_{CES}$ | $\leq 1$   | $\leq 1$   | $\mu\text{A}$ |
| Collector cutoff current<br>( $-V_{CE} = 30\text{ V}; T_{amb} = 125^{\circ}\text{C}$ ) | $-I_{CES}$ | $\leq 100$ | $\leq 100$ | $\mu\text{A}$ |
| DC current gain<br>( $-I_C = 12\text{ A}; -V_{CE} = 0.7\text{ V}$ )                    | $h_{FE}$   | $\geq 25$  | $\geq 25$  | —             |
| DC current gain<br>( $-I_C = 0.1\text{ A}; -V_{CE} = 0.7\text{ V}$ )                   | $h_{FE}$   | 200        | 200        | —             |
| Base-emitter forward voltage<br>( $-I_C = 12\text{ A}; -V_{CE} = 0.7\text{ V}$ )       | $-V_{BE}$  | $< 1.7$    | $< 1.7$    | V             |
| Base-emitter forward voltage<br>( $-I_C = 0.1\text{ A}; -V_{CE} = 0.7\text{ V}$ )      | $-V_{BE}$  | $< 0.8$    | $< 0.8$    | V             |

Dynamic characteristics ( $T_{amb} = 25^{\circ}\text{C}$ )

|                                                                                                          |           |           |           |               |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|---------------|
| Transition frequency<br>( $-V_{CE} = 10\text{ V}; -I_C = 0.2\text{ A}$ )                                 | $f_T$     | $\geq 50$ | $\geq 50$ | MHz           |
| Collector-base capacitance<br>( $-V_{CB} = 10\text{ V}$ )                                                | $C_{CB}$  | 130       | 130       | pF            |
| Switching times<br>( $-I_C = 2\text{ A}; I_{B1} \text{ approx. } I_{B2} \text{ approx. } 0.2\text{ A}$ ) | $t_{on}$  | $< 0.5$   | $< 0.5$   | $\mu\text{s}$ |
|                                                                                                          | $t_{off}$ | $< 2$     | $< 2$     | $\mu\text{s}$ |

Total perm. power dissipation  
versus temperature

$$P_{\text{tot}} = f(T_{\text{case}})$$

DC current gain  $h_{FE} = f(I_C)$   
 $-V_{CE} = 0.7 \text{ V}; T_{\text{case}} = 25^\circ\text{C}$ Collector cutoff current versus  
temperature  $I_{CES} = f(T_{\text{case}})$ 

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25C 04345 D

BD 287

BD 288

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