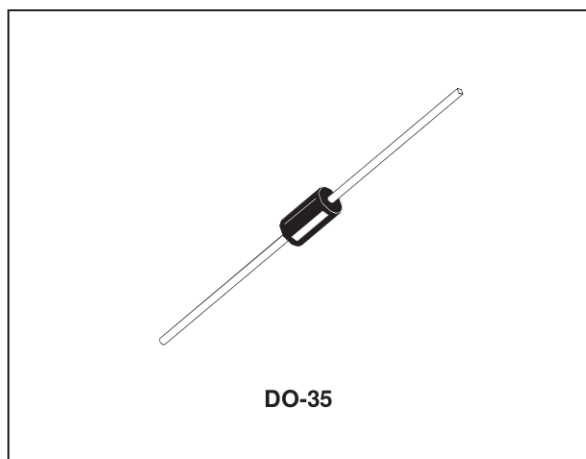


## SMALL SIGNAL SCHOTTKY DIODES

### DESCRIPTION

General purpose, metal to silicon diodes featuring very low turn-on voltage fast switching.

These devices have integrated protection against excessive voltage such as electrostatic dis-



### ABSOLUTE RATINGS (limiting values)

| Symbol             | Parameter                                                     |                                           | Value                        | Unit                                 |
|--------------------|---------------------------------------------------------------|-------------------------------------------|------------------------------|--------------------------------------|
| $V_{RRM}$          | Repetitive Peak Reverse Voltage                               |                                           | 30                           | V                                    |
| $I_F$              | Forward Continuous Current                                    | $T_a = 25^\circ\text{C}$                  | 200                          | mA                                   |
| $I_{FRM}$          | Repetitive Peak Forward Current                               | $t_p \leq 1\text{s}$<br>$\delta \leq 0.5$ | 500                          | mA                                   |
| $I_{FSM}$          | Surge non Repetitive Forward Current*                         | $t_p = 10\text{ms}$                       | 4                            | A                                    |
| $P_{tot}$          | Power Dissipation*                                            | $T_l = 65^\circ\text{C}$                  | 200                          | mW                                   |
| $T_{stg}$<br>$T_j$ | Storage and Junction Temperature Range                        |                                           | - 65 to +150<br>- 65 to +125 | $^\circ\text{C}$<br>$^\circ\text{C}$ |
| $T_L$              | Maximum Temperature for Soldering during 10s at 4mm from Case |                                           | 230                          | $^\circ\text{C}$                     |

### THERMAL RESISTANCE

| Symbol        | Test Conditions   | Value | Unit               |
|---------------|-------------------|-------|--------------------|
| $R_{th(j-a)}$ | Junction-ambient* | 300   | $^\circ\text{C/W}$ |

\* On infinite heatsink with 4mm lead length

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

| Symbol   | Test Conditions             |                        | Min.      | Typ. | Max. | Unit          |
|----------|-----------------------------|------------------------|-----------|------|------|---------------|
| $V_{BR}$ | $T_j = 25^{\circ}\text{C}$  | $I_R = 100\mu\text{A}$ | 30        |      |      | V             |
| $V_F^*$  | $T_j = 25^{\circ}\text{C}$  | $I_F = 200\text{mA}$   | All Types |      | 1    | V             |
|          | $T_j = 25^{\circ}\text{C}$  | $I_F = 10\text{mA}$    | BAT 42    |      | 0.4  |               |
|          | $T_j = 25^{\circ}\text{C}$  | $I_F = 50\text{mA}$    |           |      | 0.65 |               |
|          | $T_j = 25^{\circ}\text{C}$  | $I_F = 2\text{mA}$     | BAT 43    |      | 0.26 |               |
|          | $T_j = 25^{\circ}\text{C}$  | $I_F = 15\text{mA}$    |           |      | 0.45 |               |
| $I_R^*$  | $T_j = 25^{\circ}\text{C}$  | $V_R = 25\text{V}$     |           |      | 0.5  | $\mu\text{A}$ |
|          | $T_j = 100^{\circ}\text{C}$ |                        |           |      | 100  |               |

DYNAMIC CHARACTERISTICS

| Symbol   | Test Conditions            |                                                                                    | Min. | Typ. | Max. | Unit |
|----------|----------------------------|------------------------------------------------------------------------------------|------|------|------|------|
| C        | $T_j = 25^{\circ}\text{C}$ | $V_R = 1\text{V}$ $f = 1\text{MHz}$                                                |      | 7    |      | pF   |
| $t_{rr}$ | $T_j = 25^{\circ}\text{C}$ | $I_F = 10\text{mA}$ $I_R = 10\text{mA}$ $i_{rr} = 1\text{mA}$<br>$R_L = 100\Omega$ |      |      | 5    | ns   |
| h        | $T_j = 25^{\circ}\text{C}$ | $R_L = 15\text{K}\Omega$ $C_L = 300\text{pF}$ $f = 45\text{MHz}$ $V_i = 2\text{V}$ | 80   |      |      | %    |

\* Pulse test:  $t_p \leq 300\mu\text{s}$     $\delta < 2\%$ .

Fig. 1: Forward current versus forward voltage at different temperatures (typical values).

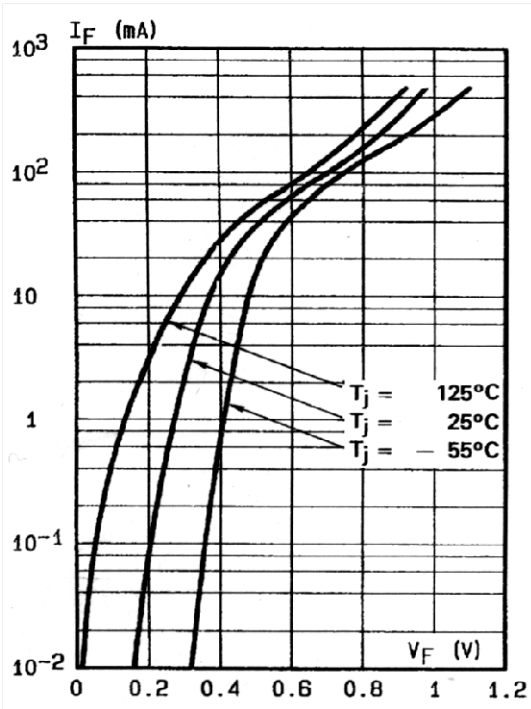
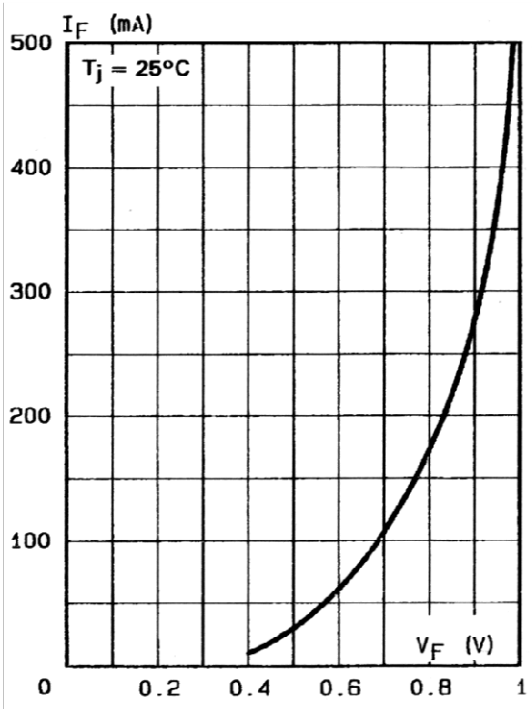
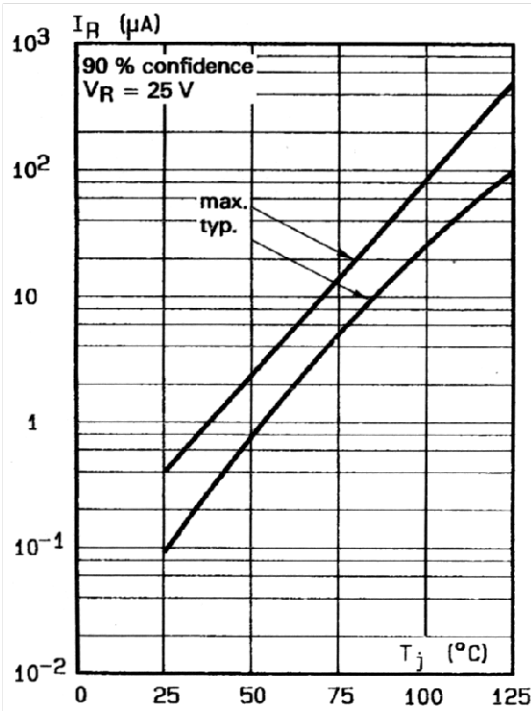


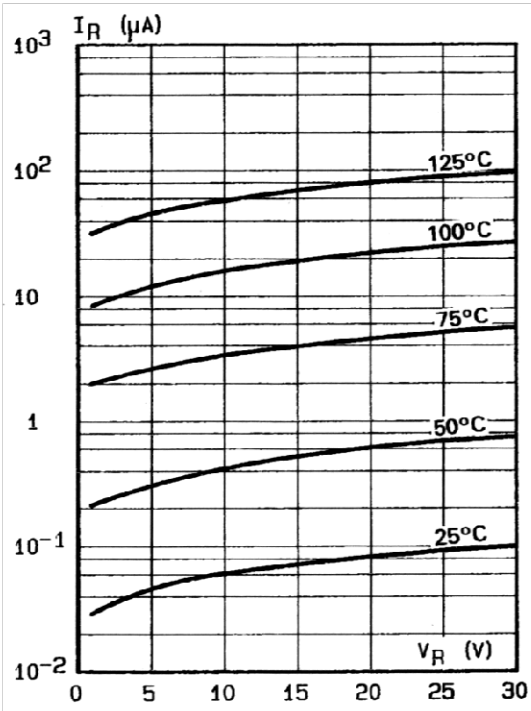
Fig. 2: Forward current versus forward voltage (typical values).



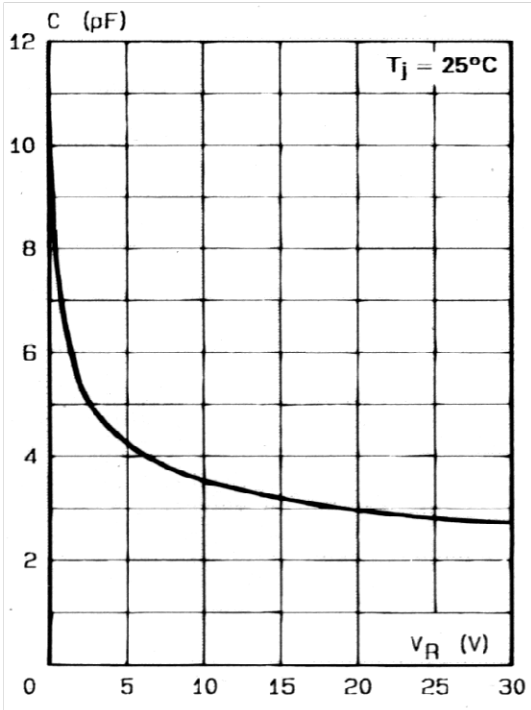
**Fig. 3:** Reverse current versus junction temperature (typical values).



**Fig. 4:** Reverse current versus continuous reverse voltage.

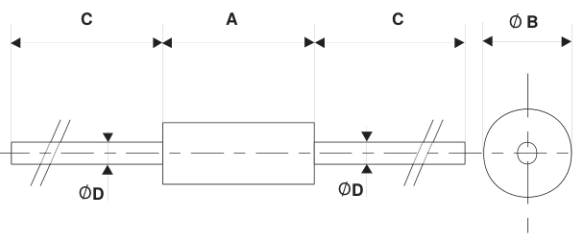


**Fig. 5:** Capacitance C versus reverse applied voltage  $V_R$  (typical values).



**PACKAGE MECHANICAL DATA**

DO-35

|  | REF. | DIMENSIONS  |       |        |       |
|-----------------------------------------------------------------------------------|------|-------------|-------|--------|-------|
|                                                                                   |      | Millimeters |       | Inches |       |
|                                                                                   |      | Min.        | Max.  | Min.   | Max.  |
| A                                                                                 |      | 3.05        | 4.50  | 0.120  | 0.177 |
| B                                                                                 |      | 1.53        | 2.00  | 0.060  | 0.079 |
| C                                                                                 |      | 28.00       |       | 1.102  |       |
| D                                                                                 |      | 0.458       | 0.558 | 0.018  | 0.022 |

Cooling method: by convection and conduction

Marking: clear, ring at cathode end.

Weight: 0.15g

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