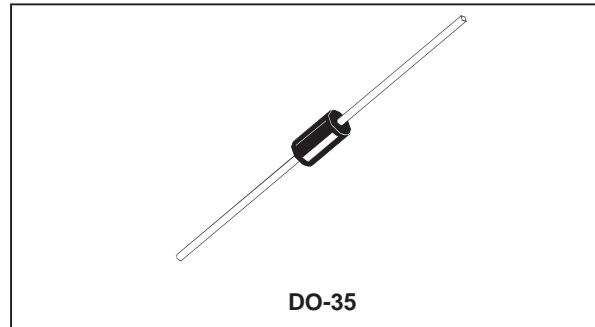


## SMALL SIGNAL SCHOTTKY DIODE

### DESCRIPTION

General purpose metal to silicon diode featuring very low turn-on voltage and fast switching.

This device has integrated protection against excessive voltage such as electrostatic discharges.



### ABSOLUTE RATINGS (limiting values)

| Symbol             | Parameter  | Value                                     | Unit                                 |
|--------------------|--|---|--------------------------------------|
| $V_{RRM}$          | Repetitive Peak Reverse Voltage                                    | 100                                       | V                                    |
| $I_F$              | Forward Continuous Current*  | $T_a = 25^\circ\text{C}$                  | 100<br>mA                            |
| $I_{FRM}$          | Repetitive Peak Forward Current*                                   | $t_p \leq 1\text{s}$<br>$\delta \leq 0.5$ | 350<br>mA                            |
| $I_{FSM}$          | Surge non Repetitive Forward Current*                              | $t_p \leq 10\text{ms}$                    | 750<br>mA                            |
| $P_{tot}$          | Power Dissipation*   | $T_a = 95^\circ\text{C}$                  | 100<br>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 Lead 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   | $^\circ\text{C}/\text{W}$ |

### ELECTRICAL CHARACTERISTICS

#### STATIC CHARACTERISTICS

| Symbol     | Test Conditions                                       | Min. | Typ.               | Max.      | Unit          |
|------------|---|------|--------------------|-----------|---------------|
| $V_{BR}$   | $T_j = 25^\circ\text{C}$<br>$I_R = 100\mu\text{A}$    | 100  |                    |           | V             |
| $V_F^{**}$ | $T_j = 25^\circ\text{C}$<br>$I_F = 1\text{mA}$        |      | 0.4                | 0.45      | V             |
|            | $T_j = 25^\circ\text{C}$<br>$I_F = 200\text{mA}$      |      |                    | 1         |               |
| $I_R^{**}$ | $T_j = 25^\circ\text{C}$<br>$T_j = 100^\circ\text{C}$ |      |                    | 0.1<br>20 | $\mu\text{A}$ |
|            |   |      | $V_R = 50\text{V}$ |           |               |

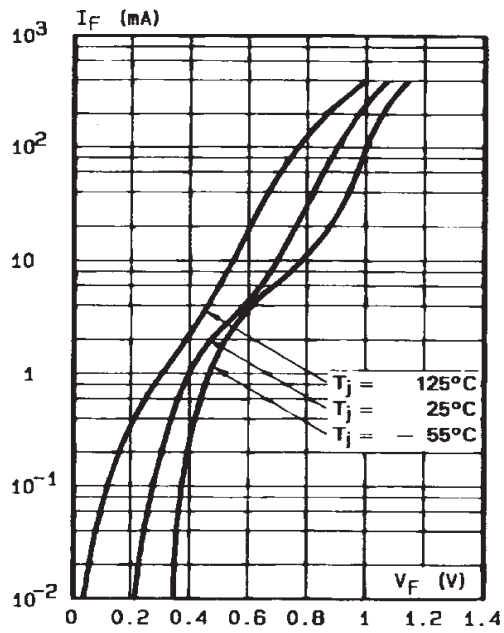
#### DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions  | Min. | Typ. | Max. | Unit |
|--------|--|------|------|------|------|
| C      | $T_j = 25^\circ\text{C}$<br>$V_R = 1\text{V}$<br>$f = 1\text{MHz}$ |      | 2    |      | pF   |

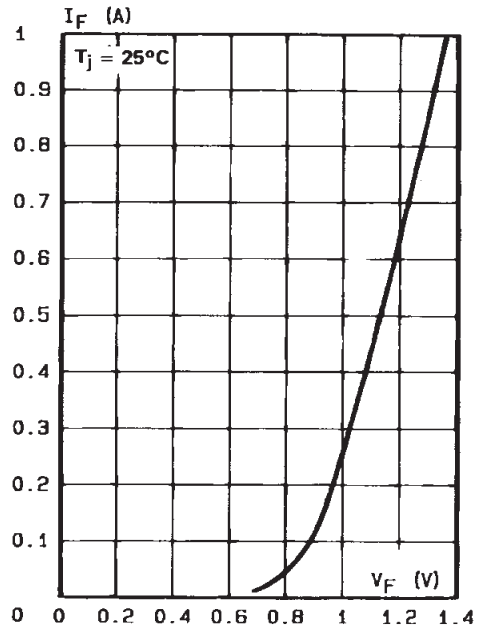
\* On infinite heatsink with 4mm lead length

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

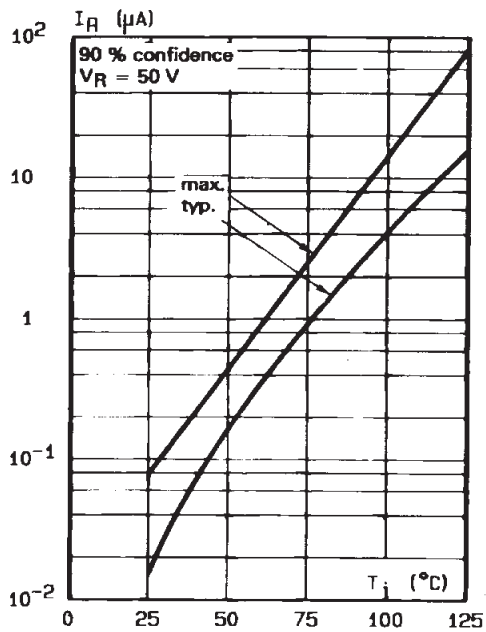
**Fig. 1:** Forward current versus forward voltage at different temperatures (typical values).



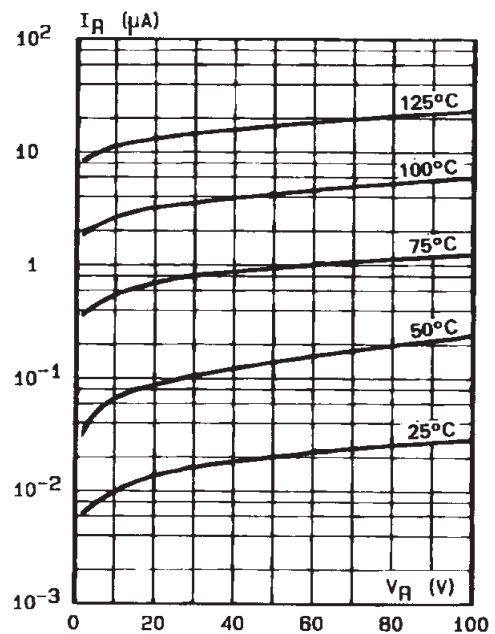
**Fig. 2:** Forward current versus forward voltage (typical values).



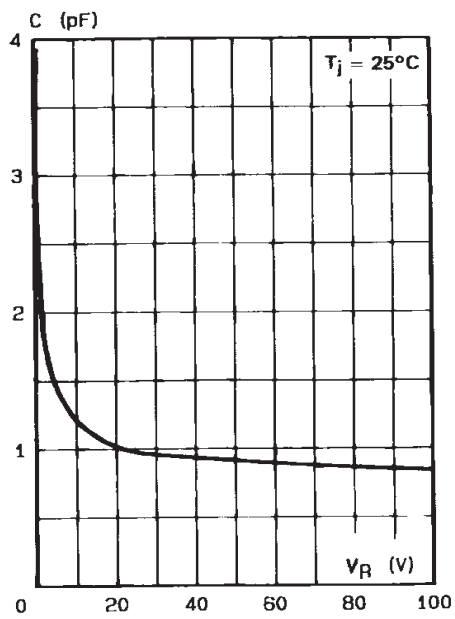
**Fig. 3:** Reverse current versus junction temperature.



**Fig. 4:** Reverse current versus continuous reverse voltage (typical values).



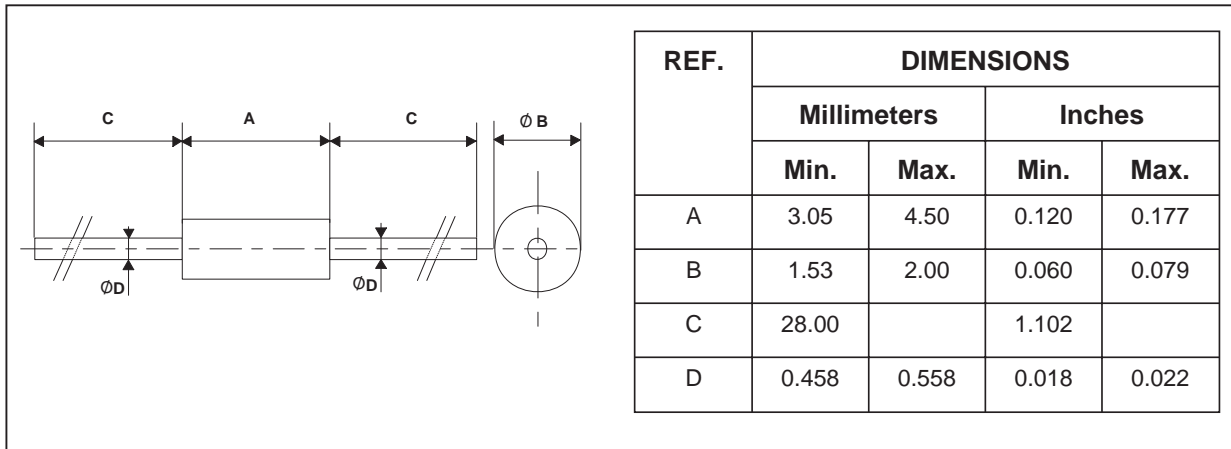
**Fig. 5:** Capacitance  $C$  versus reverse applied voltage  $V_R$  (typical values).



# BAT41

## PACKAGE MECHANICAL DATA

DO-35



Cooling method : by convection and conduction

Marking: clear, ring at cathode end.

Weight: 0.15g

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