

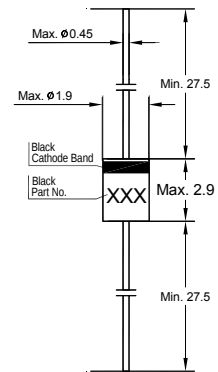
# BAT86

## SCHOTTKY BARRIER DIODE

Ultra high-speed switching, voltage clamping  
protection circuits and blocking applications

### Features

- Low forward voltage
- Hermetically-sealed leaded glass package



Glass Case DO-34  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25\text{ }^{\circ}\text{C}$ )

| Parameter                                                                                    | Symbol      | Value         | Unit               |
|----------------------------------------------------------------------------------------------|-------------|---------------|--------------------|
| Continuous Reverse Voltage                                                                   | $V_R$       | 50            | V                  |
| Continuous Forward Current                                                                   | $I_F$       | 200           | mA                 |
| Average Forward Current ( $V_{RWM} = 25\text{ V}$ , $T_{amb} = 50\text{ }^{\circ}\text{C}$ ) | $I_{F(AV)}$ | 200           | mA                 |
| Repetitive Peak Forward Current (at $t_p \leq 1\text{ s}$ , $\delta \leq 0.5$ )              | $I_{FRM}$   | 500           | mA                 |
| Non-repetitive Peak Forward Current (at $t_p \leq 10\text{ ms}$ )                            | $I_{FSM}$   | 5             | A                  |
| Operating Ambient Temperature Range                                                          | $T_{amb}$   | - 65 to + 125 | $^{\circ}\text{C}$ |
| Junction Temperature                                                                         | $T_j$       | 125           | $^{\circ}\text{C}$ |
| Storage Temperature Range                                                                    | $T_{Stg}$   | - 65 to + 150 | $^{\circ}\text{C}$ |
| Thermal Resistance from Junction to Ambient                                                  | $R_{thja}$  | 320           | K/W                |

### Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

| Parameter                                                                                           | Symbol   | Max. | Unit          |
|-----------------------------------------------------------------------------------------------------|----------|------|---------------|
| Forward Voltage<br>at $I_F = 0.1\text{ mA}$                                                         | $V_F$    | 300  | mV            |
| at $I_F = 1\text{ mA}$                                                                              | $V_F$    | 380  | mV            |
| at $I_F = 10\text{ mA}$                                                                             | $V_F$    | 450  | mV            |
| at $I_F = 30\text{ mA}$                                                                             | $V_F$    | 600  | mV            |
| at $I_F = 100\text{ mA}$                                                                            | $V_F$    | 900  | mV            |
| Reverse Current<br>at $V_R = 40\text{ V}$                                                           | $I_R$    | 5    | $\mu\text{A}$ |
| Diode Capacitance<br>at $V_R = 1\text{ V}$ , $f = 1\text{ MHz}$                                     | $C_d$    | 8    | pF            |
| Reverse Recovery Time<br>at $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $R_L = 100\text{ }\Omega$ | $t_{rr}$ | 4    | ns            |

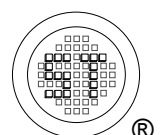


Fig.1 Derating curve.

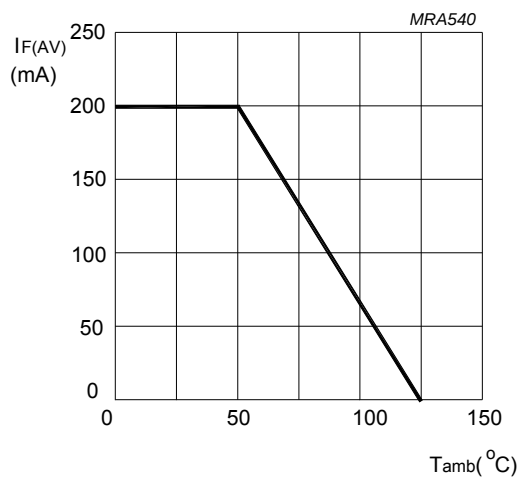


Fig.2 Forward current as a function of forward voltage; typical values.

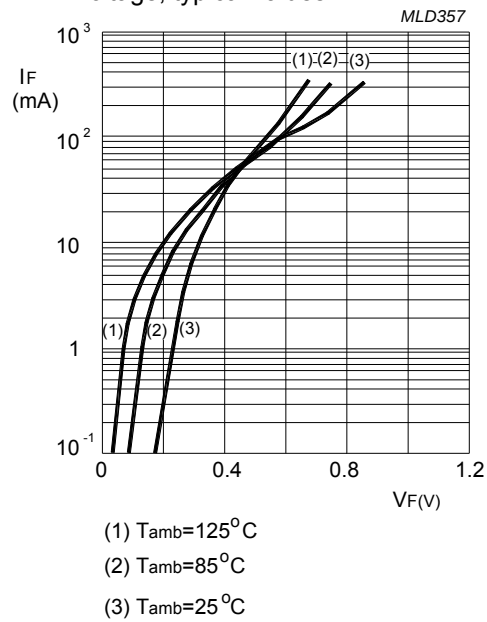


Fig.3 Reverse current as a function of reverse voltage; typical values.

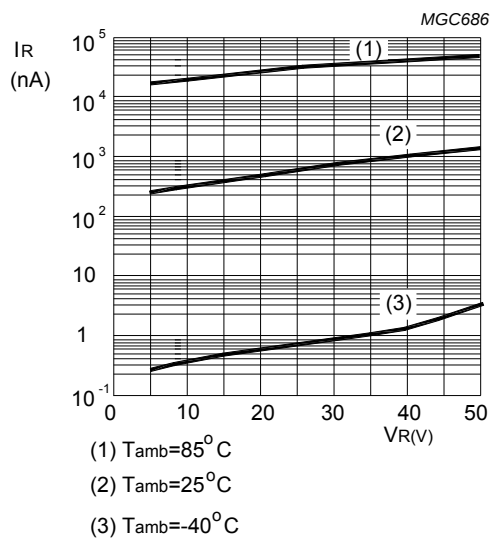


Fig.4 Diode capacitance as a function of reverse voltage; typical values.

