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# BAT86

## SMALL SIGNAL SCHOTTKY DIODES

### Features

- Moisture Sensitivity: Level 1 per J-STD-020C
- For general purpose applications
- These diodes features very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- These diode is also available in the Mini-MELF case with type designation LL86
- Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring. The low forward voltage drop and fast switching
- Make it ideal for protection of MOS devices, and low logic applications.
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

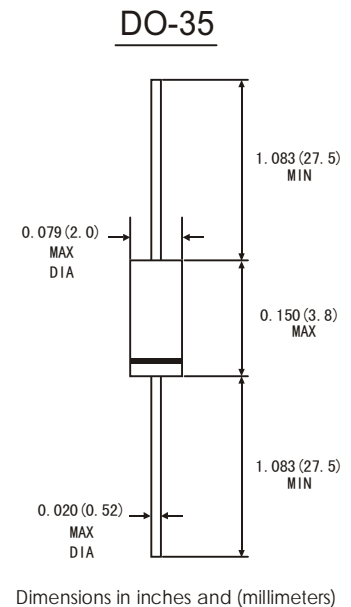
### MECHANICAL DATA

- Weight: Approx. 0.13 gram
- Case: Do-35 glass case
- Marking : Cathode band and type number

### ABSOLUTE RATINGS(LIMITING VALUES)

|  | Symbols   | Value             | Units              |
|--|-----------|-------------------|--------------------|
| Repetitive Peak Reverse Voltage  | $V_R$     | 50                | V                  |
| Forward Continuous Current at $T=25^{\circ}\text{C}$   | $I_F$     | 200 <sup>1)</sup> | mA                 |
| Repetitive Peak Forward Current at $t < 1\text{s}, \Delta t < 0.5, T_A = 25^{\circ}\text{C}$ | $I_{FRM}$ | 300 <sup>1)</sup> | mA                 |
| Power Dissipation at $T_A = 65^{\circ}\text{C}$  | $P_{tot}$ | 200 <sup>1)</sup> | mW                 |
| Junction temperature   | $T_J$     | 125               | $^{\circ}\text{C}$ |
| Ambient Operating temperature Range  | $T_A$     | -55~+125          | $^{\circ}\text{C}$ |
| Storage Temperature Range  | $T_{STG}$ | -55~+150          | $^{\circ}\text{C}$ |

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature



### ELECTRICAL CHARACTERISTICS

|   | Symbols                                   | Min. | Typ.                                      | Max.                                      | Units                 |
|---|---|------|---|---|-----------------------|
| Reverse breakdown voltage Tested with 10 $\mu$ A pulses   | $V_{(BR)R}$                               | 50   |   |   | V                     |
| Forward voltage<br>Pulse Test $t_p < 300\mu\text{s}, \delta < 2\%$<br>at $I_F = 0.1\text{mA}$ ,<br>at $I_F = 1\text{mA}$ ,<br>at $I_F = 10\text{mA}$ ,<br>at $I_F = 30\text{mA}$ ,<br>at $I_F = 100\text{mA}$ | $V_F$<br>$V_F$<br>$V_F$<br>$V_F$<br>$V_F$ |      | 0.200<br>0.272<br>0.365<br>0.460<br>0.700 | 0.300<br>0.380<br>0.450<br>0.600<br>0.900 | V<br>V<br>V<br>V<br>V |
| Leakage current $V_R = 25\text{V}$  | $I_R$                                     |      | 0.2                                       | 0.5                                       | $\mu\text{A}$         |
| Junction Capacitance at $V_R = 1\text{V}, f = 1\text{MHz}$  | $C_J$                                     |      |   | 8   | pF                    |
| Reverse recovery time Form $I_F = 10\text{mA}, I_R = 10\text{mA}, I_R = 1\text{mA}$   | $t_{rr}$                                  |      |   | 5   | ns                    |
| Thermal resistance junction to ambient Air  | $R_{\theta JA}$                           |      |   | 300 <sup>1)</sup>                         | K/W                   |

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature(DO-35)

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 5.