

SMD Schottky Barrier Diode



SMD Diodes Specialist

CDBK0540(RoHs Device)

$I_o = 500 \text{ mA}$

$V_R = 40 \text{ Volts}$

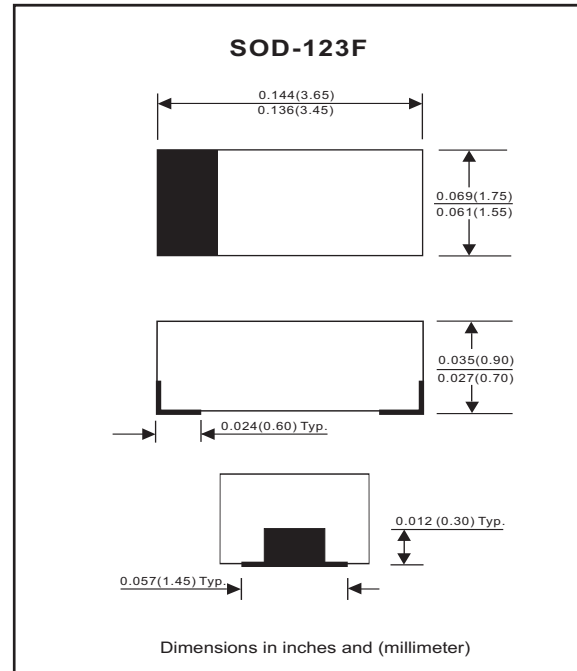


Features

- Low forward voltage.
- Designed for mounting on small surface.
- Extremely thin / leadless package.
- Majority carrier conduction.

Mechanical data

- Case: SOD-123F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any
- Weight: 0.011 gram(approx.).



Maximum Rating (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------------------------|---|-----------|-----|-----|------|------|
| Peak reverse voltage | | V_{RM} | | | 40 | V |
| Reverse voltage | | V_R | | | 40 | V |
| Average forward rectified current | | I_o | | | 500 | mA |
| Forward current, surge peak | 8.3 ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 5.5 | A |
| Storage temperature | | T_{STG} | -40 | | +125 | °C |
| Junction temperature | | T_j | | | +125 | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-------------------------------|--|----------|-----|-----|------------------------------|------|
| Forward voltage | $I_F = 0.5 \text{ A}$ @ $T_a = 25 \text{ }^\circ\text{C}$ $I_F = 1 \text{ A}$ @ $T_a = 25 \text{ }^\circ\text{C}$ $I_F = 0.5 \text{ A}$ @ $T_a = 100 \text{ }^\circ\text{C}$ $I_F = 1 \text{ A}$ @ $T_a = 100 \text{ }^\circ\text{C}$ | V_F | | | 0.51 0.64 0.46 0.62 | V |
| Reverse current | $V_R = 20 \text{ V}$ @ $T_a = 25 \text{ }^\circ\text{C}$ $V_R = 40 \text{ V}$ @ $T_a = 25 \text{ }^\circ\text{C}$ $V_R = 20 \text{ V}$ @ $T_a = 100 \text{ }^\circ\text{C}$ $V_R = 40 \text{ V}$ @ $T_a = 100 \text{ }^\circ\text{C}$ | I_R | | | 0.01 0.02 2 5 | mA |
| Capacitance between terminals | $f = 1 \text{ MHz}$, and 0 VDC reverse voltage | C_T | | | 170 | pF |
| Reverse recovery time | $I_F = I_R = 10 \text{ mA}$, $I_{rr} \times I_R$, $R_L = 100 \text{ ohm}$ | T_{rr} | | 22 | | ns |

REV:A

RATING AND CHARACTERISTIC CURVES (CDBK0540)

Fig. 1 - Forward characteristics

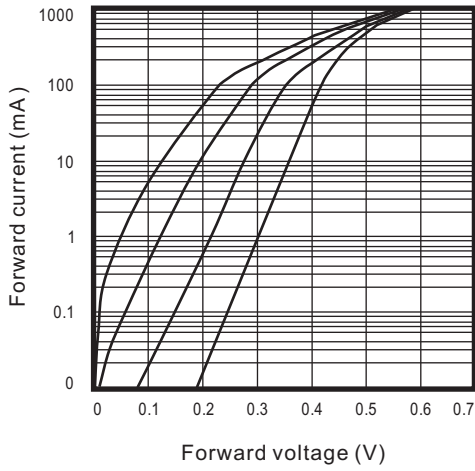


Fig. 2 - Reverse characteristics

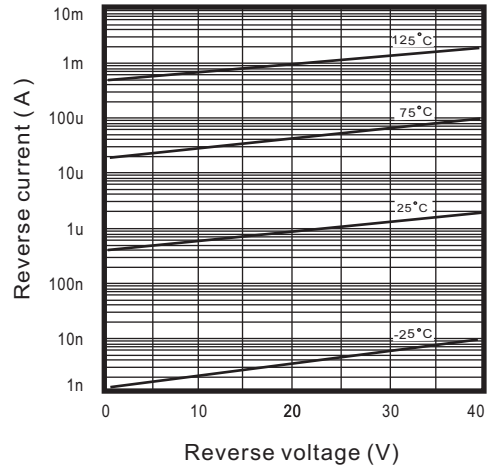


Fig. 3 - Capacitance between terminals characteristics

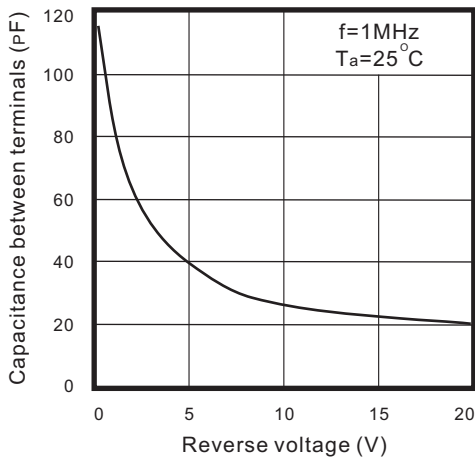


Fig. 4 - Current derating curve

