

Schottky barrier diode

RB050L-40

● Applications

For high-frequency rectification
For switching power supplies

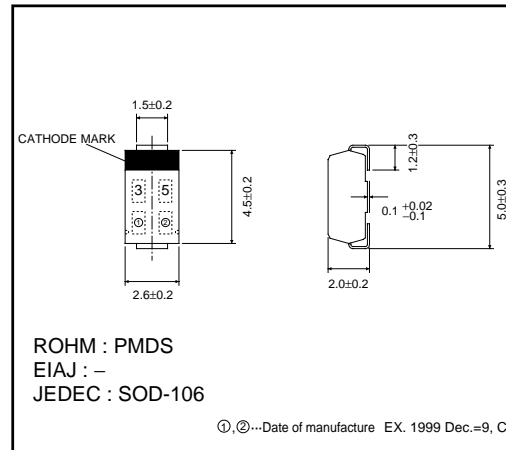
● Features

- 1) Compact power-mold type. (PMDS)
- 2) $I_o=3A$ guaranteed at this size.
- 3) Low I_r . ($I_r=16\mu A$ Typ.)

● Construction

Silicon epitaxial planar

● External dimensions (Units : mm)



● Absolute maximum ratings ($T_a = 25^\circ C$)

| Parameter | Symbol | Limits | Unit |
|----------------------------|-----------|----------|------------|
| Peak reverse voltage | V_{RM} | 40 | V |
| DC reverse voltage | V_R | 40 | V |
| Mean rectifying current *1 | I_o | 3.0 | A |
| Peak surge current *2 | I_{FSM} | 70 | A |
| Junction temperature | T_j | 125 | $^\circ C$ |
| Storage temperature | T_{stg} | -40~+125 | $^\circ C$ |

*1 When mounted on an alumina board (82×30×1.0mm), 180° Half sine wave

*2 60Hz, 1

● Electrical characteristics ($T_a = 25^\circ C$)

| Parameter | Symbol | Max. | Unit | Conditions |
|--------------------|--------------|------|--------------|--------------------------------------|
| Forward voltage | V_{F1} | 0.55 | V | $I_F=3.0A$ |
| | V_{F2} | 0.50 | V | $I_F=1.5A$ |
| Reverse current | I_R | 1.0 | mA | $V_R=40V$ |
| Thermal resistance | θ_j-a | 90 | $^\circ C/W$ | When mounted on an alumina board. |
| | θ_j-a | 120 | $^\circ C/W$ | When mounted on a glass epoxy board. |
| | θ_j-l | 25 | $^\circ C/W$ | When mounted on an alumina board. |

Diodes

● Electrical characteristic curves (Ta = 25°C)

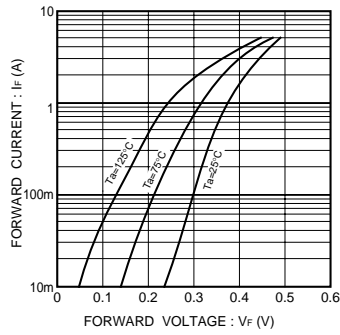


Fig. 1 Forward temperature characteristics

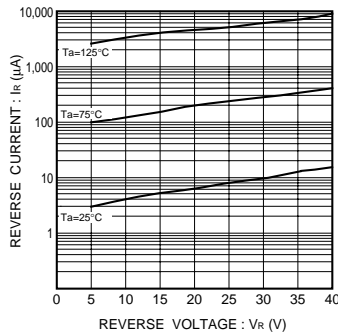


Fig. 2 Reverse temperature characteristics

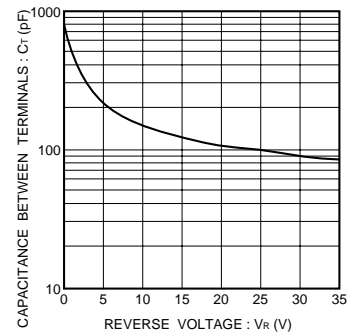


Fig. 3 Capacitance between terminals characteristics

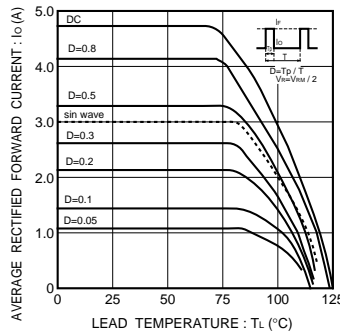


Fig. 4 Derating curve

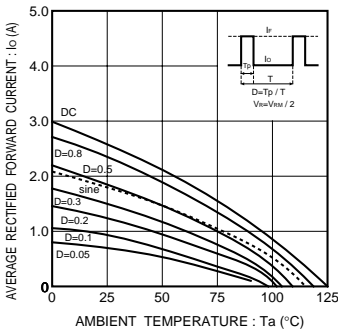


Fig. 5 Derating curve (when mounted on a glass epoxy board)

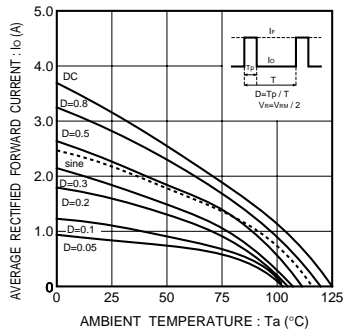


Fig. 6 Derating curve (when mounted on an alumina board)

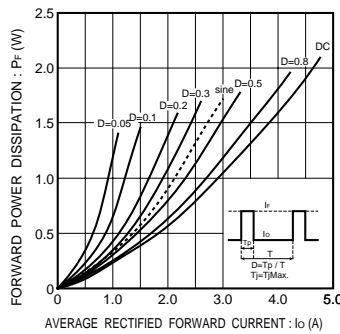


Fig. 7 Power dissipation characteristics

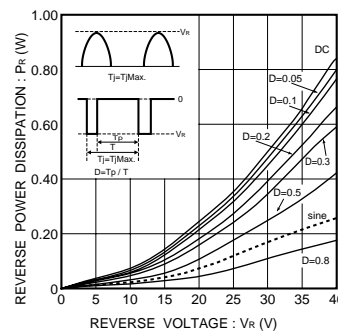


Fig. 8 Reverse power dissipation