

# High frequency rectifier schottky barrier diode

## RB050L-40

### ●Applications

For high-frequency rectification

For switching power supplies

### ●Features

- 1) Compact power-mold type. (PMDS (SOD-106))
- 2)  $I_O = 3A$  achieved at this size.
- 3) Low reverse current. (typical capability :  $16\mu A$ )

### ●Construction

Silicon epitaxial planar

### ●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        | $T_{stg}$ | $-40 \sim +125$ | $^\circ C$ |

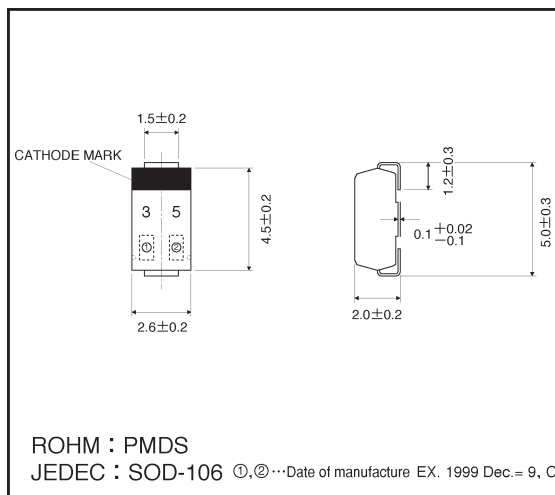
\* 1 When mounted on an alumina board (82×30×1.0mm) , 180° Half sine wave

\* 2 60Hz, 1 

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

| Parameter          | Symbol         | Max. | Unit         | Conditions                           |
|--------------------|----------------|------|--------------|--------------------------------------|
| Forward voltage    | $V_{F1}$       | 0.50 | 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 | $\theta_{j-a}$ | 90   | $^\circ C/W$ | When mounted on an alumina board.    |
|                    | $\theta_{j-g}$ | 120  | $^\circ C/W$ | When mounted on a glass epoxy board. |
|                    | $\theta_{j-l}$ | 25   | $^\circ C/W$ | When mounted on an alumina board.    |

### ●External dimensions (Units: mm)



●Electrical characteristic curves ( $T_a = 25^\circ\text{C}$  unless specified otherwise)

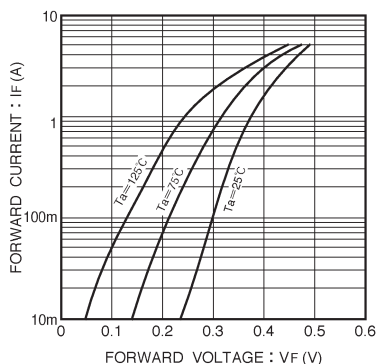


Fig. 1 Forward temperature characteristics

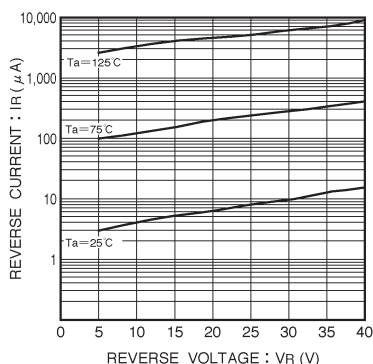


Fig. 2 Reverse temperature characteristics

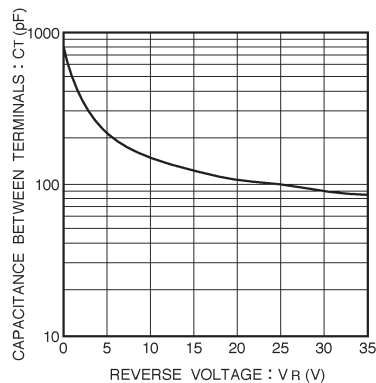


Fig. 3 Capacitance between terminals characteristics

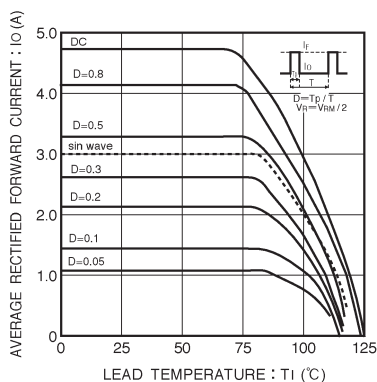


Fig. 4 Derating curve

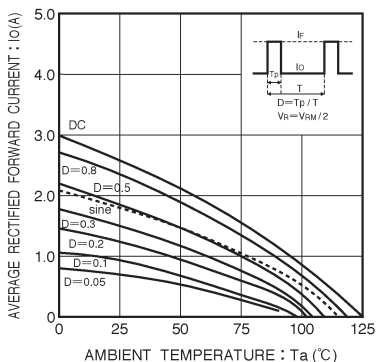


Fig. 5 Derating curve (when mounted on an alumina board)

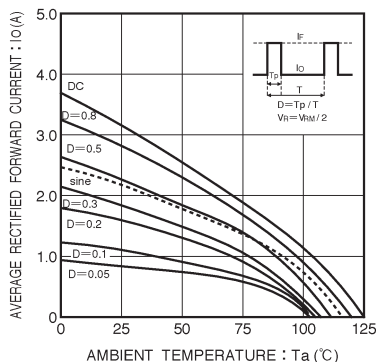


Fig. 6 Derating curve (when mounted on a glass epoxy board)

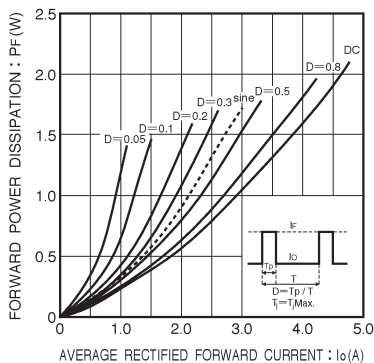


Fig. 7 Power dissipation characteristics

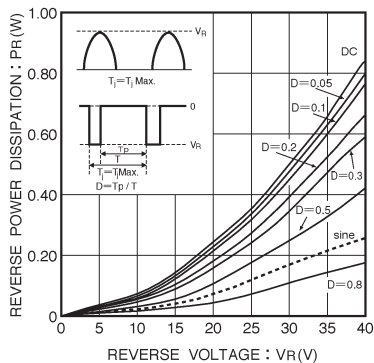


Fig. 8 Reverse power dissipation