

# Schottky barrier diode

## RB050L-40

### ●Applications

For high-frequency rectification  
For switching power supplies

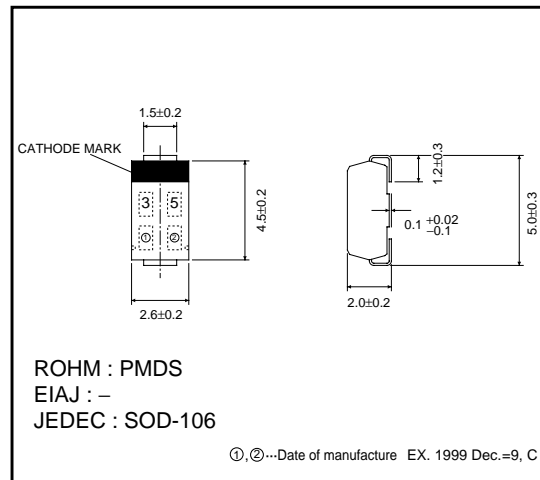
### ●Features

- 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	$\theta_{j-a}$	90	$^\circ C/W$	When mounted on an alumina board.
	$\theta_{j-a}$	120	$^\circ C/W$	When mounted on a glass epoxy board.
	$\theta_{j-l}$	25	$^\circ C/W$	When mounted on an alumina board.

Diodes

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

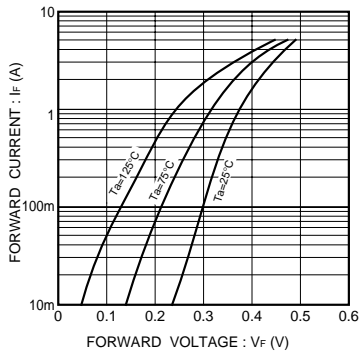


Fig. 1 Forward temperature characteristics

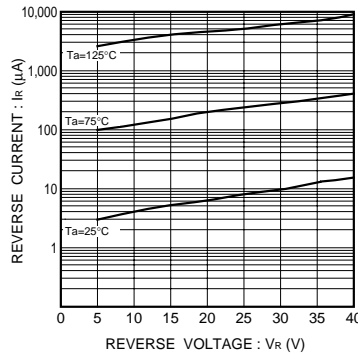


Fig. 2 Reverse temperature characteristics

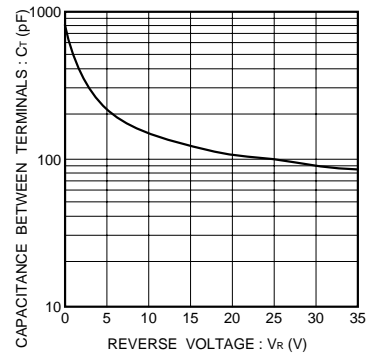


Fig. 3 Capacitance between terminals characteristics

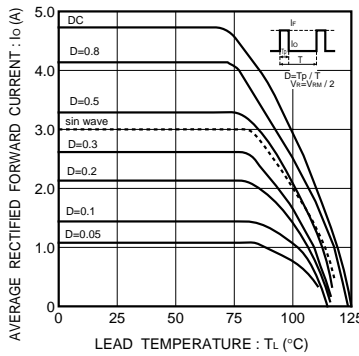


Fig. 4 Derating curve

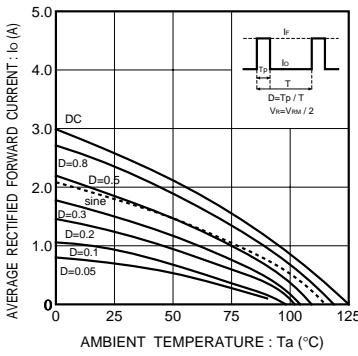


Fig. 5 Derating curve (when mounted on a glass epoxy board)

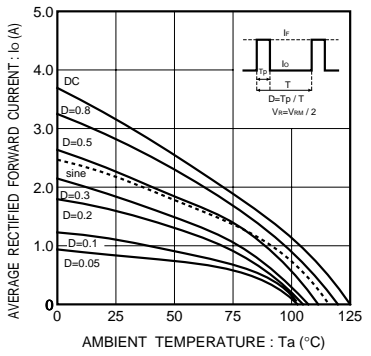


Fig. 6 Derating curve (when mounted on an alumina board)

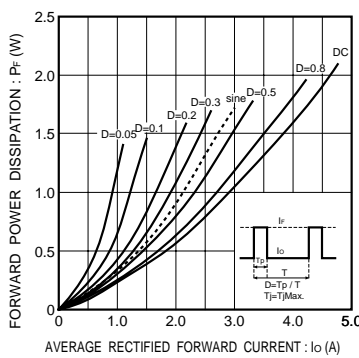


Fig. 7 Power dissipation characteristics

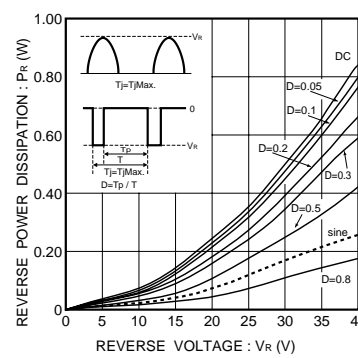


Fig. 8 Reverse power dissipation