

# Schottky barrier diode

## RB051L-40

### ●Applications

High frequency rectification  
For switching power supply

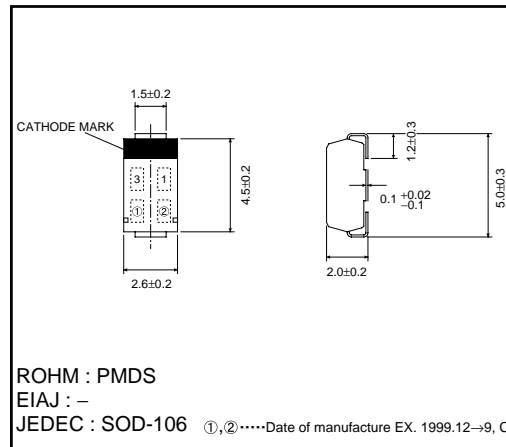
### ●Features

- 1) Compact power mold type. (PMDS)
- 2) Ultra low  $V_F$ . ( $V_F=0.29V$  Typ. at 1A)
- 3)  $V_{RM}=40V$  guaranteed.

### ●Construction

Silicon epitaxial planar

### ●External dimensions (Units : mm)



### ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Peak reverse voltage	$V_{RM}$	40	V
DC reverse voltage	$V_R$	20	V
Mean rectifying current *	$I_o$	3.0	A
Peak forward surge current (60Hz · 1 $\phi$ )	$I_{FSM}$	70	A
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-40~+125	°C

\* $T_L$  90°C Max. 180° half sine wave when mounted on an alumina substrate  
(82 × 30 × 1.0 mm)

### ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Typ.	Max.	Unit	Conditions
Forward voltage	$V_{F1}$	-	0.35	V	$I_F=1.0A$
	$V_{F2}$	-	0.45	V	$I_F=3.0A$
Reverse current	$I_{R1}$	-	1.0	mA	$V_R=20V$
	$I_{R2}$	-	150	$\mu A$	$V_R=15V$

Diodes

● Electrical characteristic curves (Ta = 25°C)

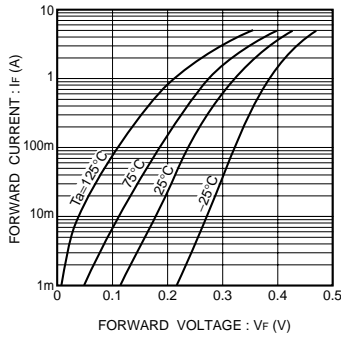


Fig. 1 Forward characteristics

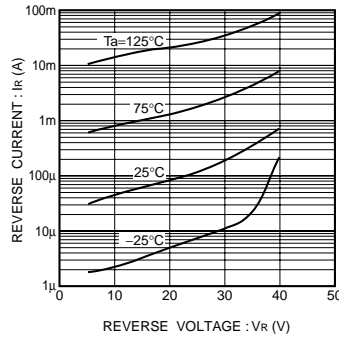


Fig. 2 Reverse characteristics

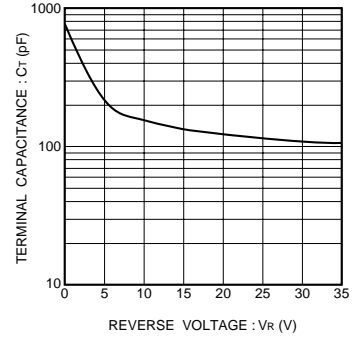


Fig. 3 Capacitance between terminals characteristics

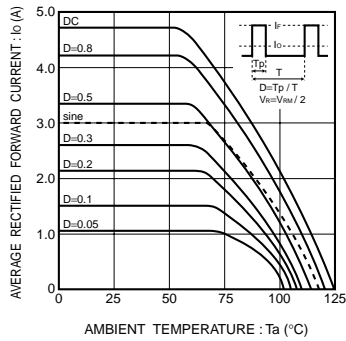


Fig. 4 Derating curve (Io - Ta)

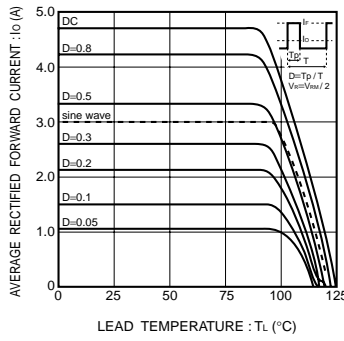


Fig. 5 Derating curve (Io - Tl)  
(When mounted on alumina PCBs)

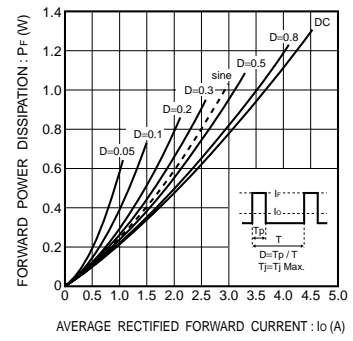


Fig. 6 Forward power dissipation characteristics

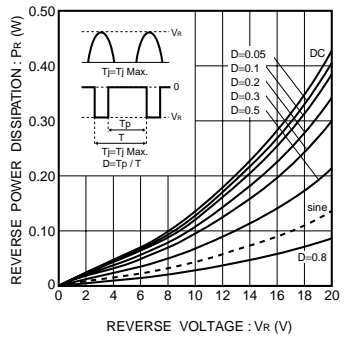


Fig. 7 Reverse power dissipation characteristics

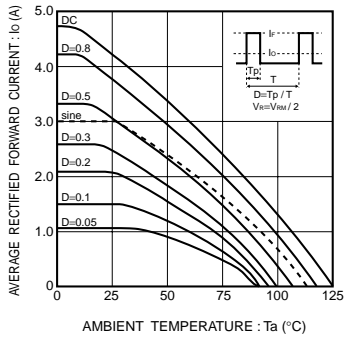


Fig. 8 Derating curve  
(when mounted on a glass epoxy PCBs board)

