

Schottky Barrier Rectifier

General Description

The SDB160G surface mounted Schottky rectifier has been designed for applications requiring low forward drop and very small foot prints on PC boards. Typical applications are in disk drives, switching power supplies, converters, free-wheeling diodes, battery charging, and reverse battery protection.



SOD-123

Features and Benefits

- Low forward drop voltage and low reverse leakage current
- Low power rectified
- “Green” device and RoHS compliant device
- Available in full lead (Pb)-free device

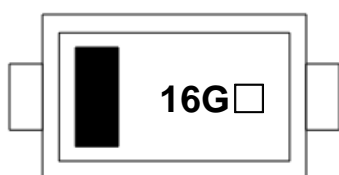
Applications

- Free-wheeling applications
- Switching mode power supplies applications

Ordering Information

Part Number	Marking Code	Package	Packaging
SDB160G	16G□	SOD-123	Tape & Reel

Marking Information

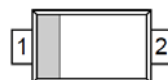


16G = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Absolute Maximum Ratings (T_{amb}=25°C, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage	V_{RRM} V_{RWM} V_R	60	V
Maximum average forward rectified current	$I_{F(AV)}$	1	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	12	A
Maximum operating junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55 ~ 150	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum thermal resistance Junction to ambient	$R_{th(j-a)}$ ³⁾	250	°C/W

Electrical Characteristics (T_{amb}=25°C, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	$V_{(BR)R}$	$I_R=1.5mA$	60	-	-	V
Forward drop voltage	V_F ¹⁾	$I_F=1A$	-	-	0.55	V
Reverse leakage current	I_R ²⁾	$V_R=60V$	-	-	50	μA
Total capacitance	C_T	$V_R=10V, f=1MHz$	-	45	-	pF

¹⁾ Pulse test: $t_P \leq 380\mu s$, Duty cycle $\leq 2\%$

²⁾ Pulse test: $t_P \leq 5ms$, Duty cycle $\leq 2\%$

³⁾ Device mounted on glass epoxy PCB (recommander minimum solder land)

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristic

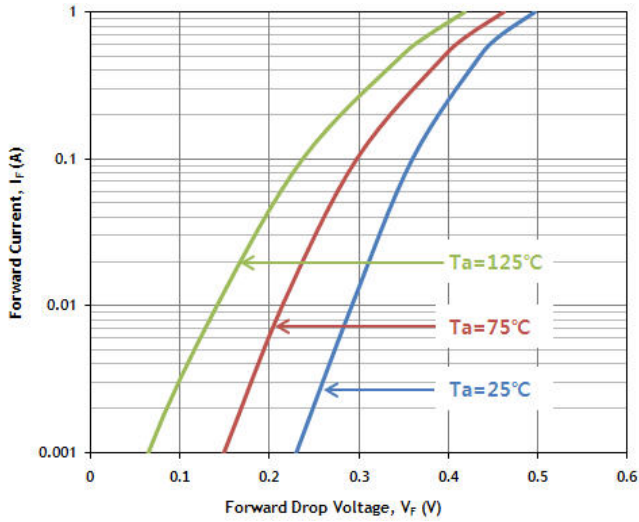


Fig. 2) Typical Reverse Characteristic

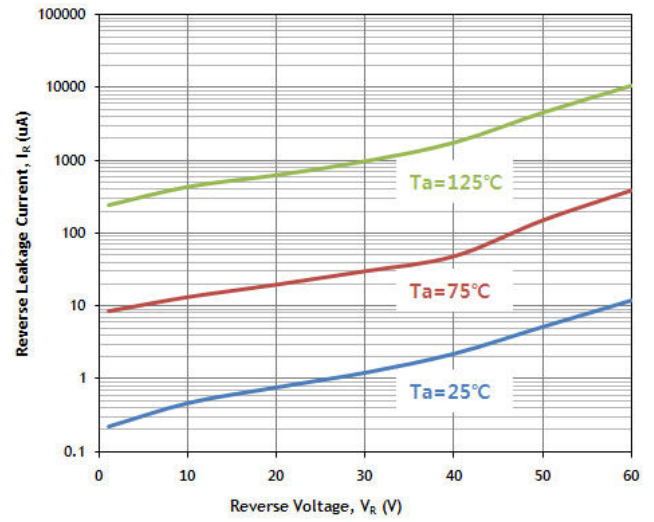


Fig. 3) Total Capacitance vs. Reverse Voltage

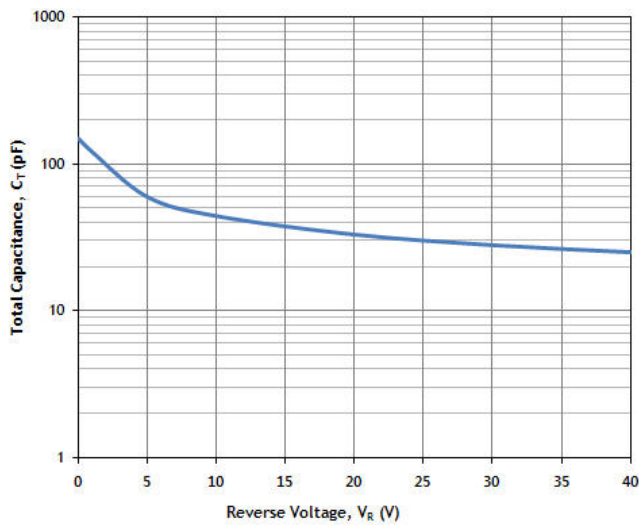
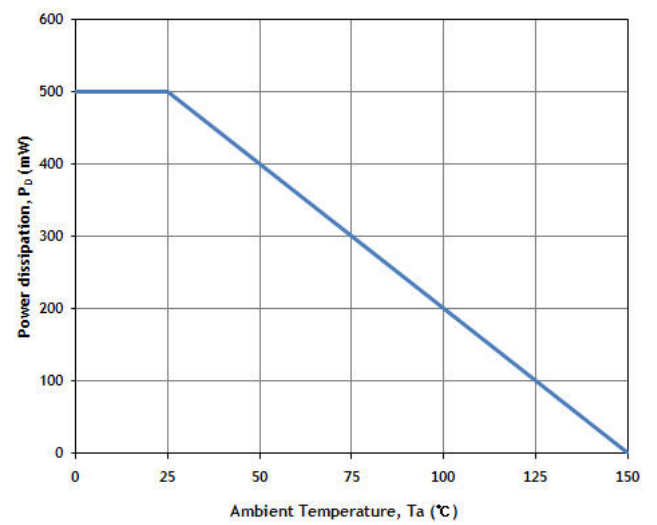
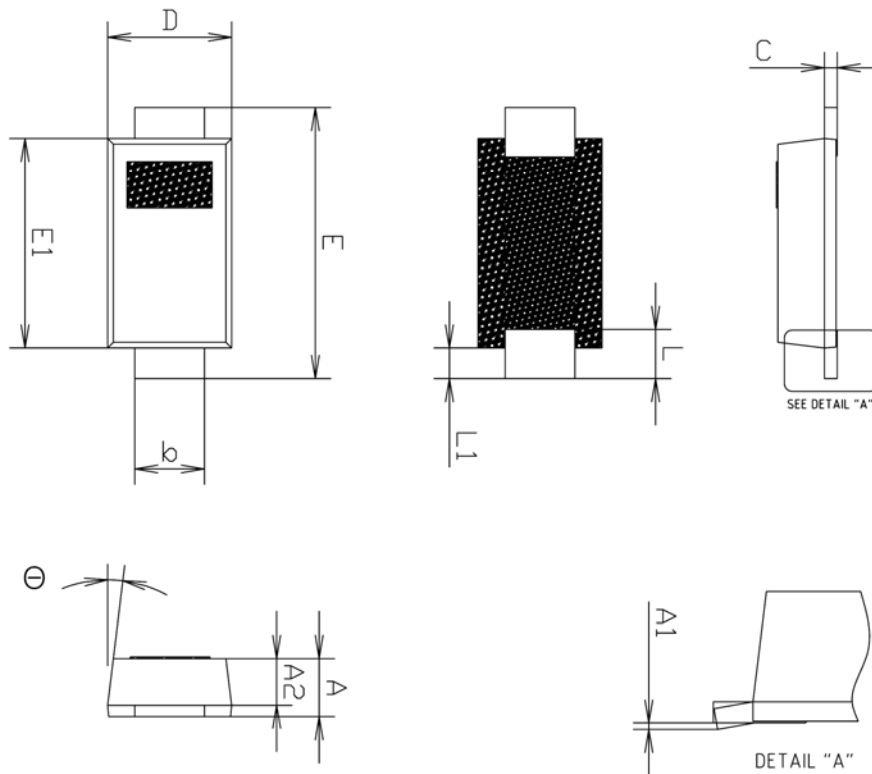


Fig. 4) Power Dissipation vs. Ambient Temperature

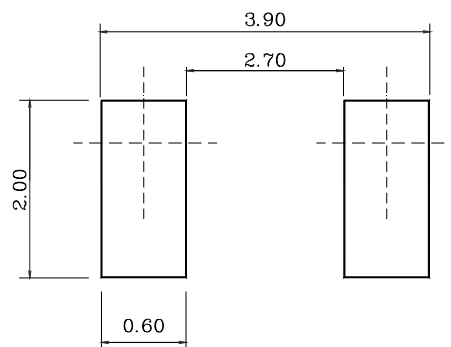


Package Outline Dimensions (Unit : mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.70	0.750	0.80	
A1	0.00	—	0.10	
A2	0.55	0.60	0.65	
b	0.85	0.92	0.99	
c	0.12	0.17	0.22	
D	1.50	1.60	1.70	
E	3.30	3.50	3.70	
E1	2.60	2.70	2.80	
L	0.49	0.64	0.79	
L1	0.30	0.40	0.50	
Θ	4°	—	10°	

※ Recommend PCB solder land (Unit : mm)



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