

Schottky Barrier Rectifier

General Description

The SDB1040 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



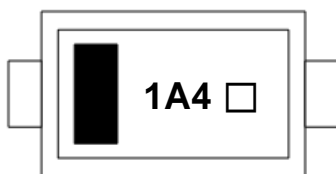
Applications

- Portable equipment battery applications
- Switching mode power supplies applications

Ordering Information

Part Number	Marking Code	Package	Packaging
SDB1040	1A4 □	SOD-123	Tape & Reel

Marking Information

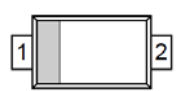
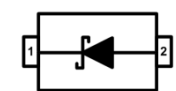


1A4 = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Absolute Maximum Ratings ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Peak reverse voltage	V_{RM}	40	V
DC reverse voltage	V_R	40	V
Average forward rectified current	I_O	1	A
Peak forward surge current 10ms single half sine-wave	I_{FSM}	30	A
Operating junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55 ~ 150	$^{\circ}\text{C}$

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage ¹⁾	V_F	$I_F=10\text{mA}$	-	0.5	0.55	V
Reverse leakage current ²⁾	I_R	$V_R=40\text{V}$	-	-	200	μA
Total capacitance	C_T	$V_R=10\text{V}, f=1\text{MHz}$	-	50	-	pF

²⁾ Pulse test: $t_p \leq 380 \mu\text{s}$, Duty cycle $\leq 2\%$

³⁾ Pulse test: $t_p \leq 5\text{ms}$, Duty cycle $\leq 2\%$

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

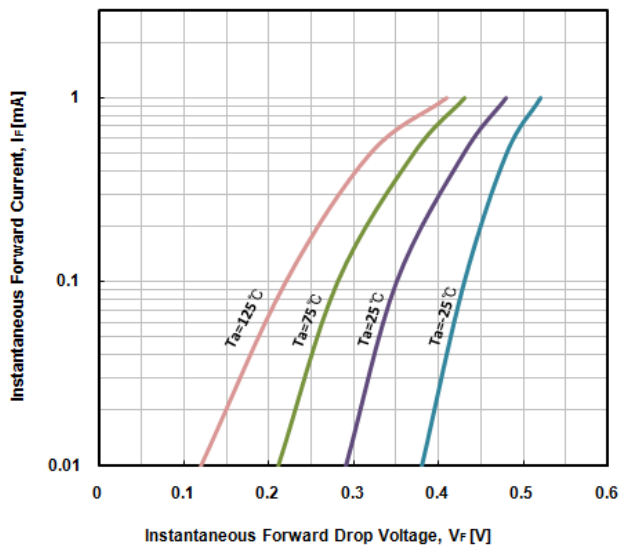


Fig. 2) Typical Reverse Characteristics

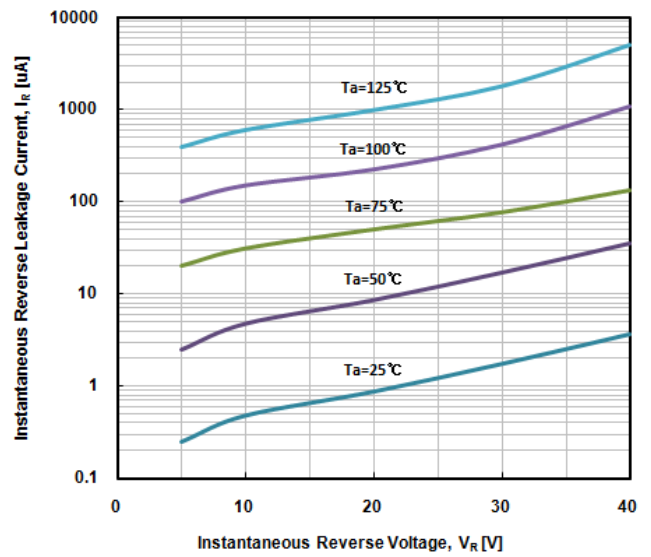


Fig. 3) Typical Total Capacitance Characteristics

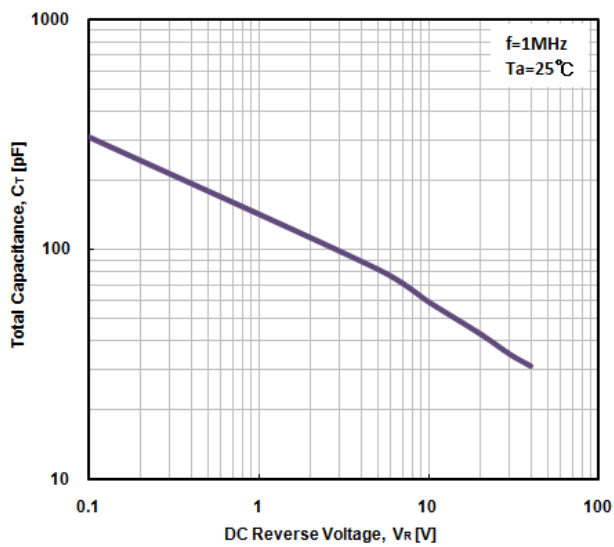
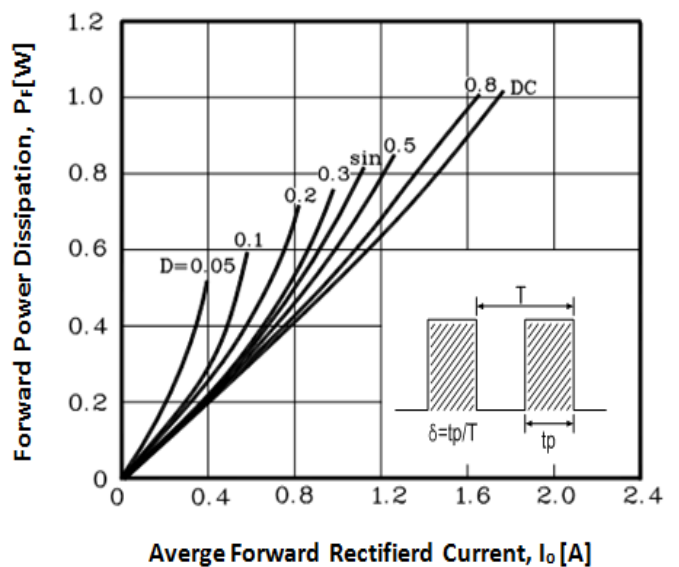
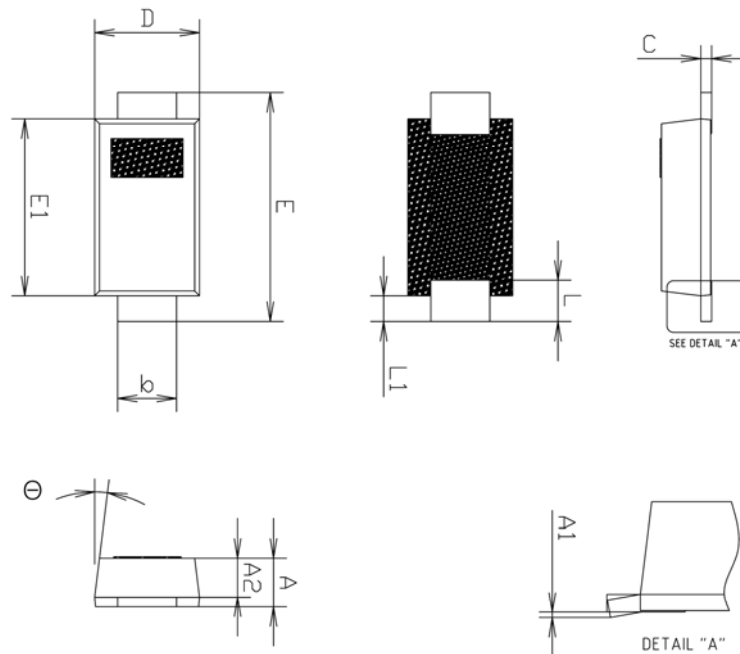


Fig. 4) Forward Power dissipation Characteristics

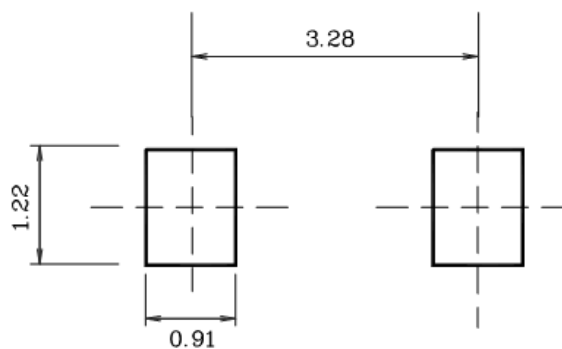


Package Outline Dimensions



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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