SD103AW - SD103CW

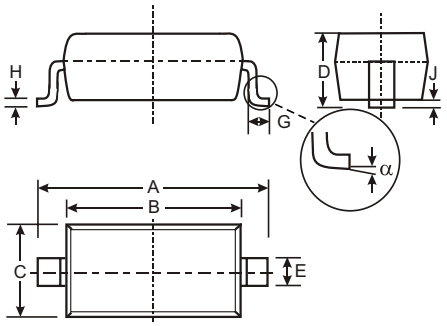
SCHOTTKY BARRIER SWITCHING DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Reverse Capacitance
- Also Available in Lead Free Version

Mechanical Data

- Case: SOD-123, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: Cathode Band
- Leads: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please See Ordering Information, Note 4, on Page 2
- Marking: Date Code and Type Code, See Page 2
- Type Codes: SD103AW S4
  SD103BW S5 or S4
  SD103CW S6 or S5 or S4
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 2



SOD-123		
Dim	**Min**	**Max**
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	SD103AW	SD103BW	SD103CW	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	30	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	21	14	V
Forward Continuous Current (Note 1)	I_{FM}	350			mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s	I_{FSM}	1.5			A
Power Dissipation (Note 1)	P_d	400			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	300			°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125			°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	SD103AW SD103BW SD103CW	$V_{(BR)R}$	40 30 20	—	—	V	I_R = 100μA
Forward Voltage Drop (Note 2)		V_{FM}	—	—	0.37 0.60	V	I_F = 20mA I_F = 200mA
Peak Reverse Current (Note 2)	SD103AW SD103BW SD103CW	I_{RM}	—	—	5.0	μA	V_R = 30V V_R = 20V V_R = 10V
Total Capacitance		C_T	—	28	—	pF	V_R = 0V, f = 1.0MHz
Reverse Recovery Time		t_{rr}	—	10	—	ns	I_F = I_R = 200mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration test pulse used to minimize self-heating effect.

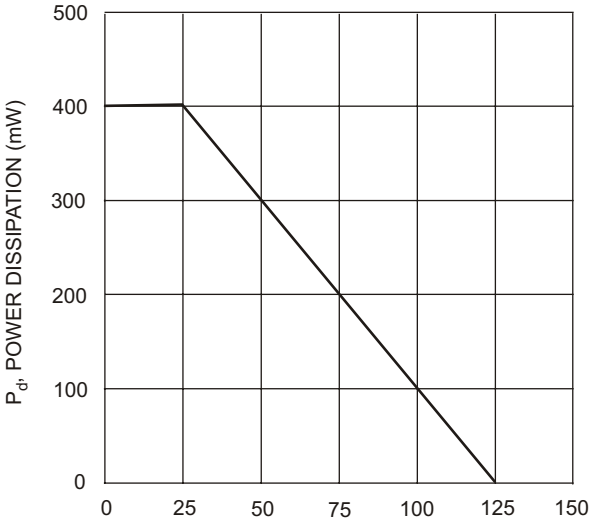


Fig.1 Power Derating Curve

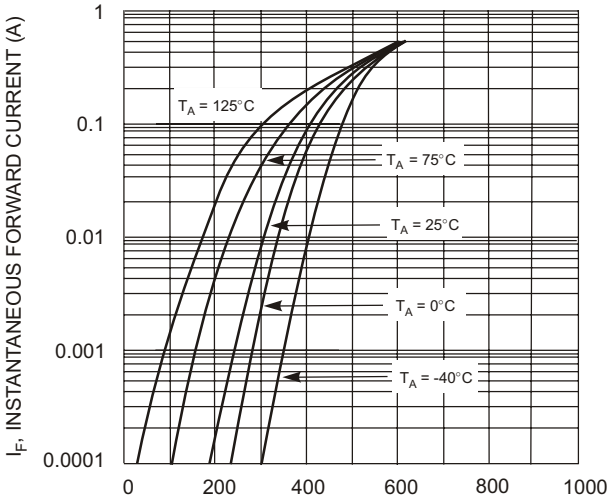


Fig. 2 Typical Forward Characteristics

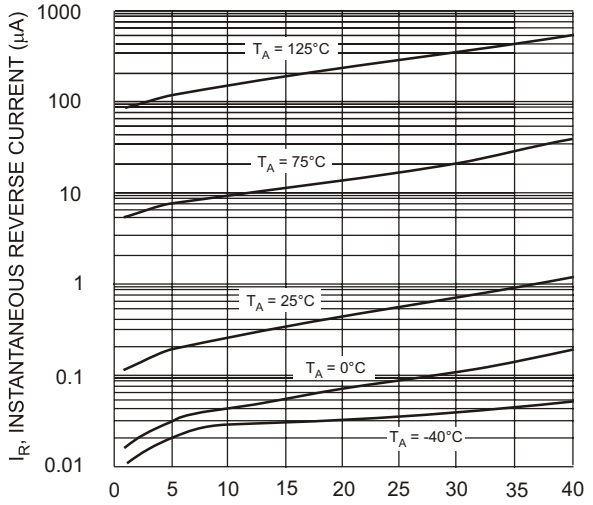


Fig. 3 Typical Reverse Characteristics

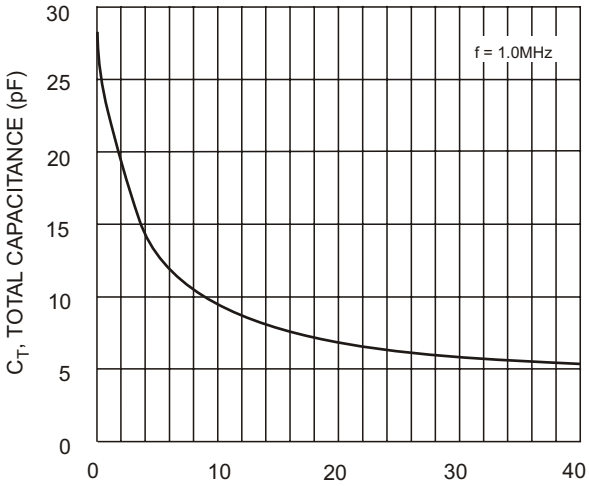


Fig. 4 Typ. Total Capacitance vs. Reverse Voltage

Ordering Information (Note 3)

Device	Packaging	Shipping
SD103AW-7	SOD-123	3000/Tape and Reel
SD103BW-7	SOD-123	3000/Tape and Reel
SD103CW-7	SOD-123	3000/Tape and Reel

Note: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above. Example: SD103CW-7-F.

Marking Information

XX = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D