Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)

Top View

Maximum Ratings @T_A = 25℃ 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

Thermal Characteristics

Characteristic	Symbol	Value	Unit
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℃ 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		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.
3. No purposefully added lead. Halogen and Antimony Free.
4. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb_2O_3 Fire Retardants.

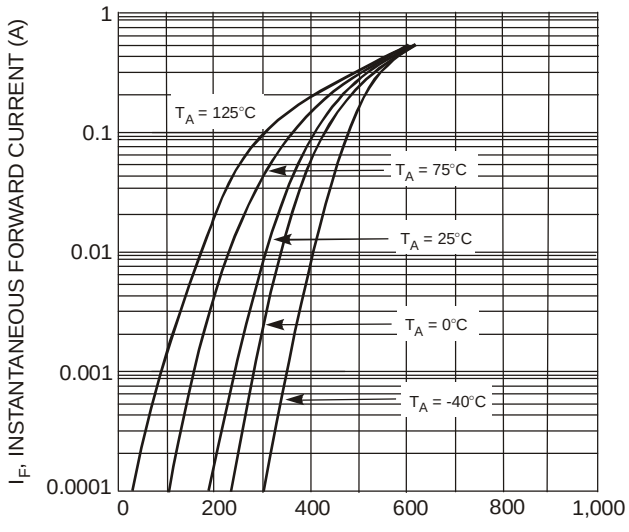


Fig. 1 Typical Forward Characteristics

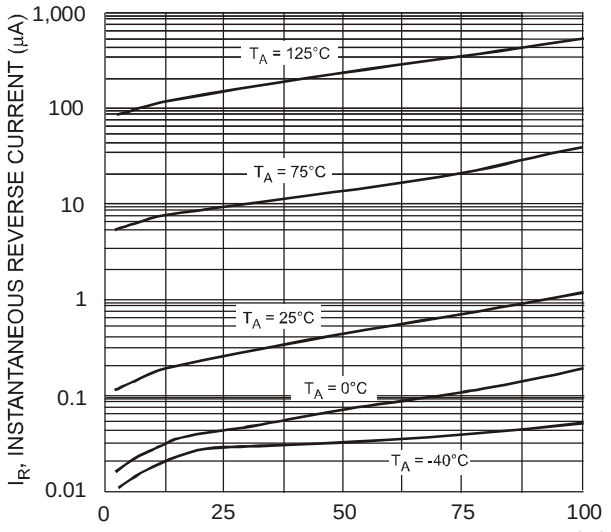


Fig. 2 Typical Reverse Characteristics

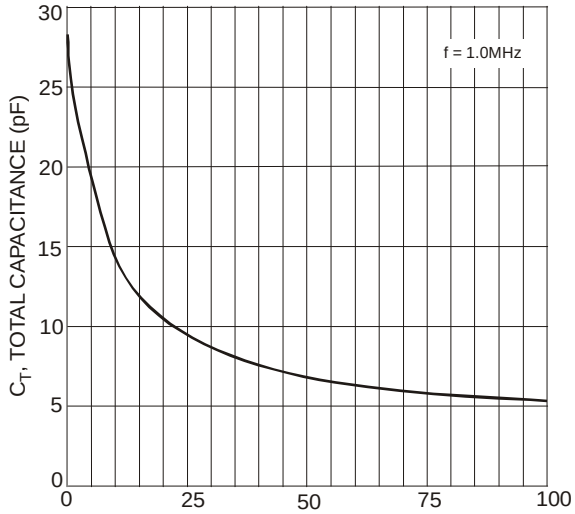


Fig. 3 Total Capacitance vs. Reverse Voltage

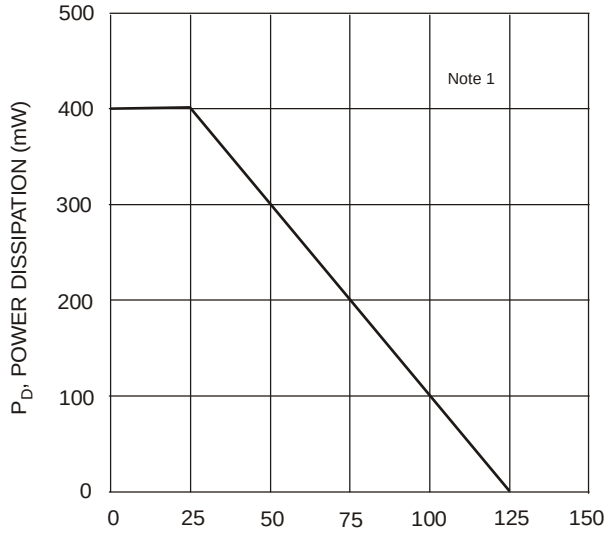


Fig. 4 Power Derating Curve

Ordering Information (Note 5)

Part Number	Case	Packaging
SD103AW-7-F	SOD-123	3000/Tape and Reel
SD103BW-7-F	SOD-123	3000/Tape and Reel
SD103CW-7-F	SOD-123	3000/Tape and Reel
SD103CW-13-F	SOD-123	10,000/Tape and Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

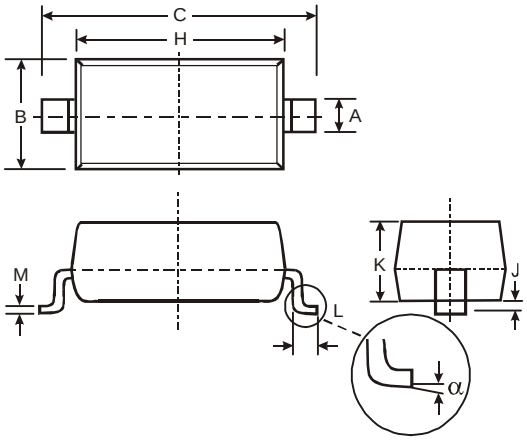
xx = Product Type Marking Code
S4 = SD103AW
S5 or S4 = SD103BW
S6 or S5 or S4 = SD103CW
YM = Date Code Marking
Y = Year (ex: T = 2006)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	A	B	C

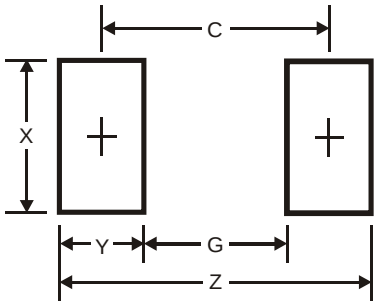
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOD-123		
Dim	Min	Max
A	0.55 Typ	
B	1.40	1.70
C	3.55	3.85
H	2.55	2.85
J	0.00	0.10
K	1.00	1.35
L	0.25	0.40
M	0.10	0.15
α	0	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	4.9
G	2.5
X	0.7
Y	1.2
C	3.7