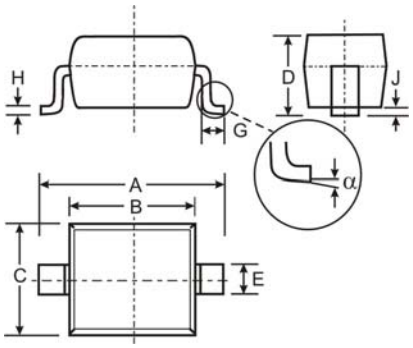
SD103AWS - SD103CWS

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Reverse Capacitance
- Ultra-Small Surface Mount Package
- **Lead Free/RoHS Compliant (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability (Only for SD103AWS-7-F)**



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
α	0°	8°
All Dimensions in mm		

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: Cathode Band
- Type Codes: SD103AWS S4
  SD103BWS S5 or S4
  SD103CWS S6 or S5 or S4
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.004 grams (approximate)

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	SD103AWS	SD103BWS	SD103CWS	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	200			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625			°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 Conditions
Reverse Breakdown Voltage (Note 2)	SD103AWS SD103BWS SD103CWS	$V_{(BR)R}$	40 30 20	—	—	V	I_R = 100μA I_R = 100μA I_R = 100μA
Forward Voltage Drop		V_F	—	—	0.37 0.60	V	I_F = 20mA I_F = 200mA
Peak Reverse Current (Note 2)	SD103AWS SD103BWS SD103CWS	I_R	—	—	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

Note: 1. Part mounted on FR-4 PC 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.

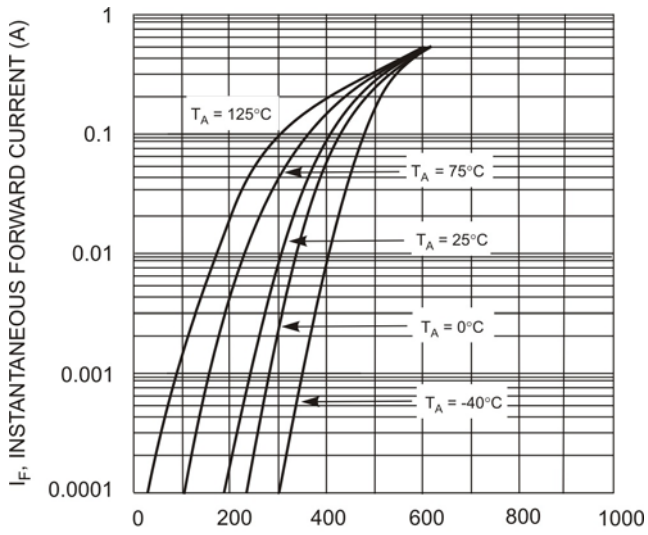


Fig. 1 Typical Forward Characteristics

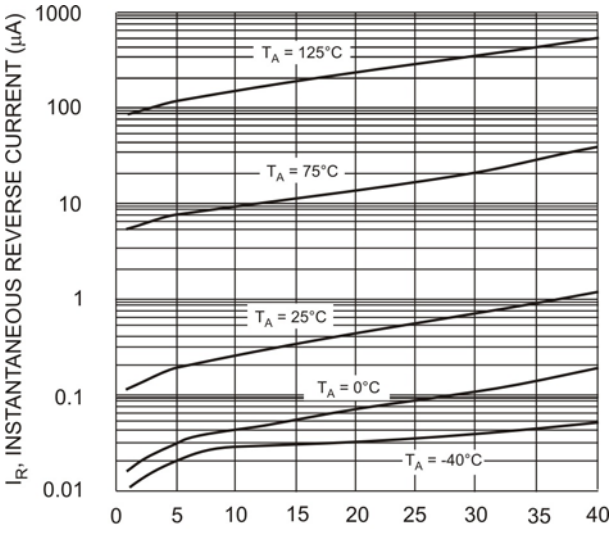


Fig. 2 Typical Reverse Characteristics

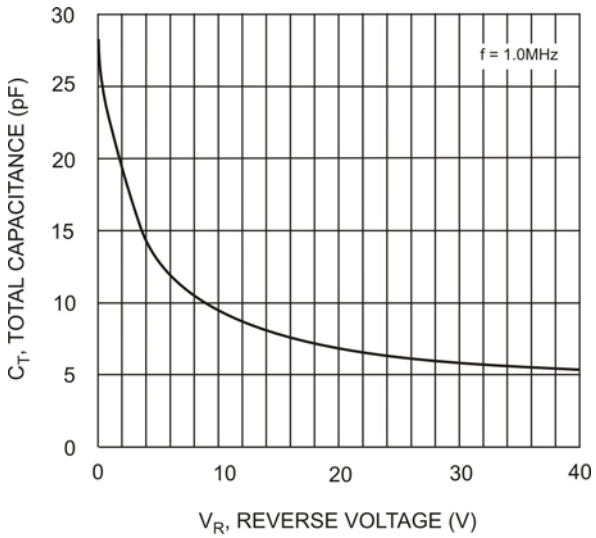


Fig. 3 Typ. Total Capacitance vs. Reverse Voltage

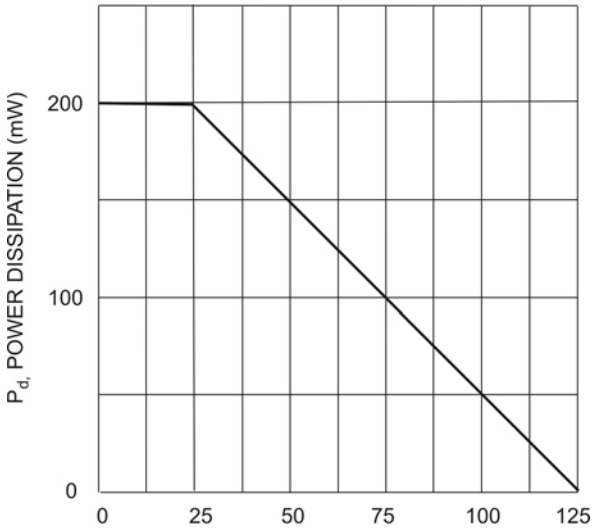


Fig. 4 Power Derating Curve

Ordering Information (Note 4)

Device	Packaging	Shipping
SD103AWS-7-F	SOD-323	3000/Tape & Reel
SD103BWS-7-F	SOD-323	3000/Tape & Reel
SD103CWS-7-F	SOD-323	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

XX = Product Type Marking Code, See Page 1