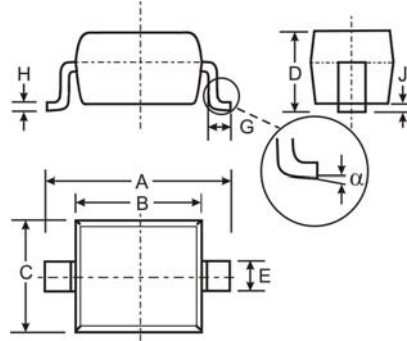


### Features

- 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)**

### 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)



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	
$\alpha$	0°	8°
<b>All Dimensions in mm</b>		

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	SD103AWS	SD103BWS	SD103CWS	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$				
Working Peak Reverse Voltage	$V_{RWM}$	40	30	20	V
DC Blocking Voltage	$V_R$				
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 @ $t \leq 1.0\text{s}$	$I_{FSM}$	1.5			A
Power Dissipation (Note 1)	$P_d$	200			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625			$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_i, T_{STG}$	-65 to +125			$^\circ\text{C}$

### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40 30 20	—	—	V	$I_R = 100\mu\text{A}$ $I_R = 100\mu\text{A}$ $I_R = 100\mu\text{A}$
Forward Voltage Drop	$V_F$	—	—	0.37 0.60	V	$I_F = 20\text{mA}$ $I_F = 200\text{mA}$
Peak Reverse Current (Note 2)	$I_R$	—	—	5.0	$\mu\text{A}$	$V_R = 30\text{V}$ $V_R = 20\text{V}$ $V_R = 10\text{V}$
Total Capacitance	$C_T$	—	28	—	pF	$V_R = 0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	10	—	ns	$I_F = I_R = 200\text{mA}$ , $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

- 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.

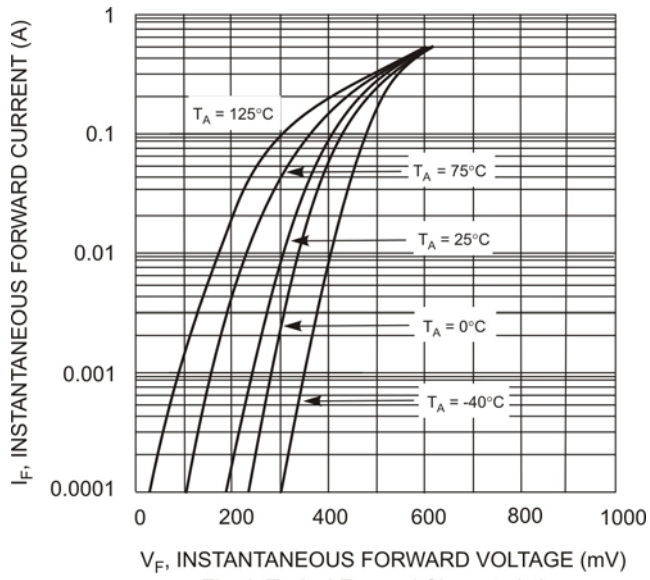


Fig. 1 Typical Forward Characteristics

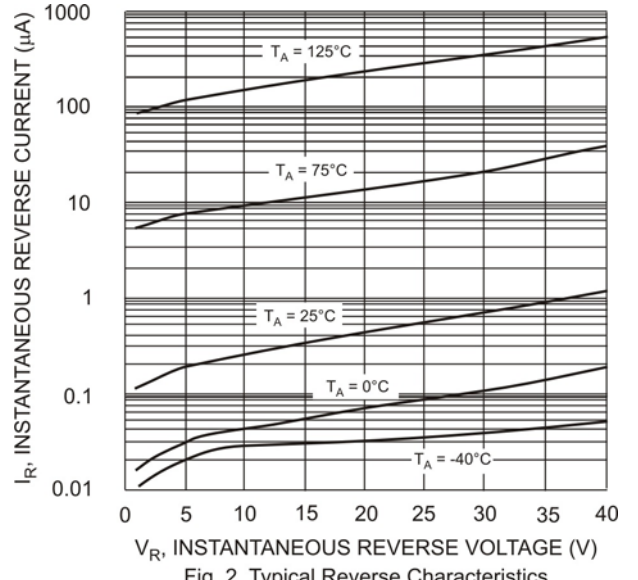


Fig. 2 Typical Reverse Characteristics

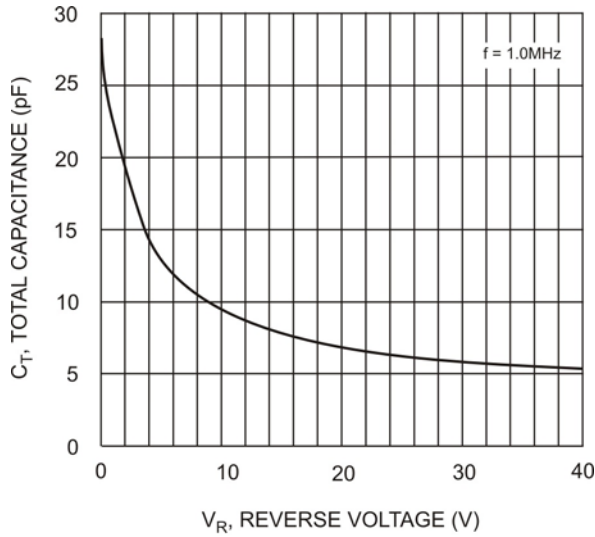


Fig. 3 Typ. Total Capacitance vs. Reverse Voltage

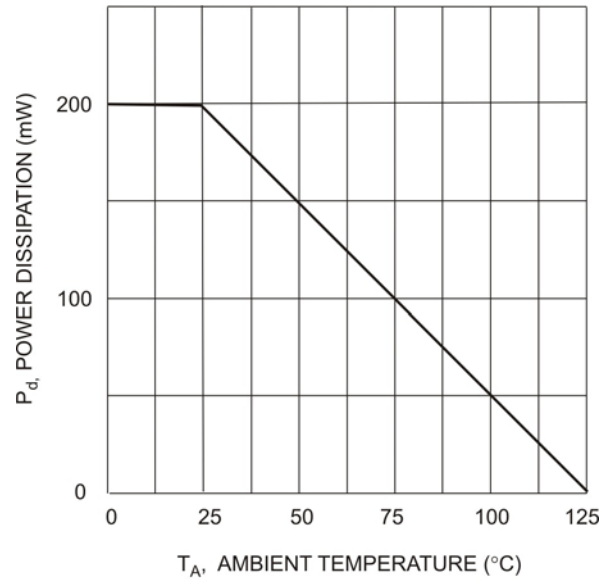


Fig. 4 Power Derating Curve

**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

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