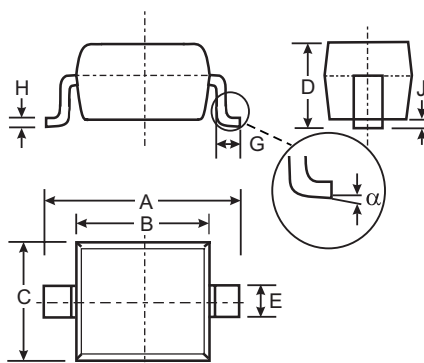


### Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance
- Ultra-small Surface Mount Package
- **Lead Free/RoHS Compliant Version (Note 2)**

### Mechanical Data

- Case: SOD-323
- Case material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Polarity: Cathode Band
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking: See Page 3
- SD101AWS Marking Code: S1 or SK
- SD101BWS Marking Code: S2 or SK
- SD101CWS Marking Code: S3 or SC or SK
- 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°
All Dimensions in mm		

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

Characteristic	Symbol	SD101AWS	SD101BWS	SD101CWS	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	60	50	40	V
Working Peak Reverse Voltage	$V_{RWM}$				
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	42	35	28	V
Forward Continuous Current (Note 1)	$I_{FM}$	15			mA
Non-Repetitive Peak Forward Surge Current @ $t \leq 1.0\text{s}$ @ $t = 10\mu\text{s}$	$I_{FSM}$	50 2.0			mA 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	$T_j, T_{STG}$	-65 to +125			$^\circ\text{C}$

- 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. No purposefully added lead.

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

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	SD101AWS SD101BWS SD101CWS	$V_{(BR)R}$	60 50 40	—	V	$I_R = 10\mu\text{A}$ $I_R = 10\mu\text{A}$ $I_R = 10\mu\text{A}$
Forward Voltage Drop	SD101AWS SD101BWS SD101CWS SD101AWS SD101BWS SD101CWS	$V_{FM}$	—	0.41 0.40 0.39 1.00 0.95 0.90	V	$I_F = 1.0\text{mA}$ $I_F = 1.0\text{mA}$ $I_F = 1.0\text{mA}$ $I_F = 15\text{mA}$ $I_F = 15\text{mA}$ $I_F = 15\text{mA}$
Peak Reverse Current (Note 3)	SD101AWS SD101BWS SD101CWS	$I_{RM}$	—	200	nA	$V_R = 50\text{V}$ $V_R = 40\text{V}$ $V_R = 30\text{V}$
Total Capacitance	SD101AWS SD101BWS SD101CWS	$C_T$	—	2.0 2.1 2.2	pF	$V_R = 0\text{V}$ , $f = 1.0\text{MHz}$
Reverse Recovery Time		$t_{rr}$	—	1.0	ns	$I_F = I_R = 5.0\text{mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100\Omega$

Notes: 3. Short duration test pulse used to minimize self-heating effect.

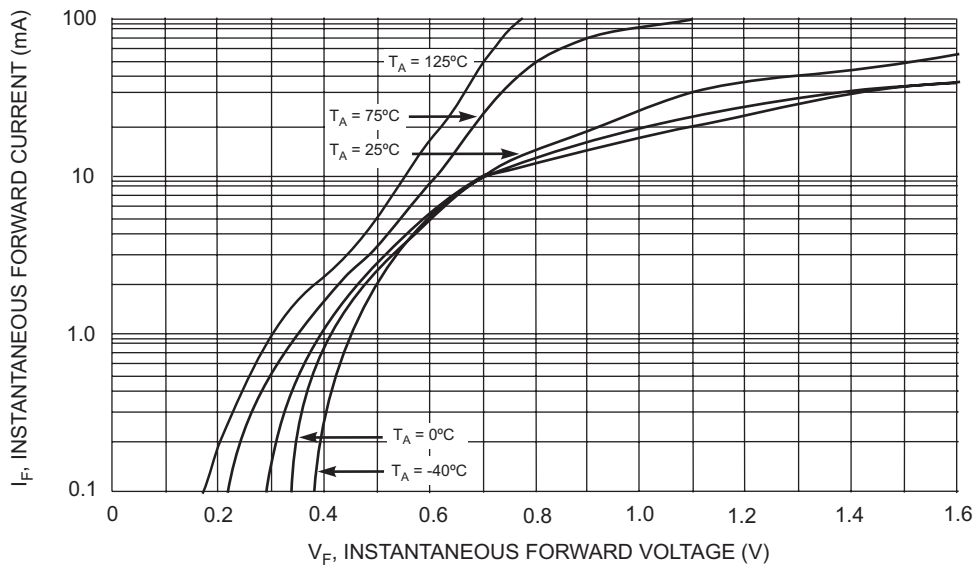


Fig. 1 Typical Forward Characteristics

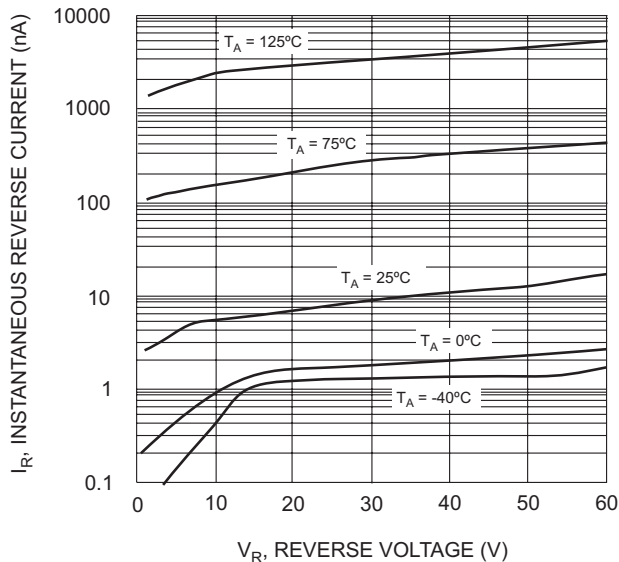
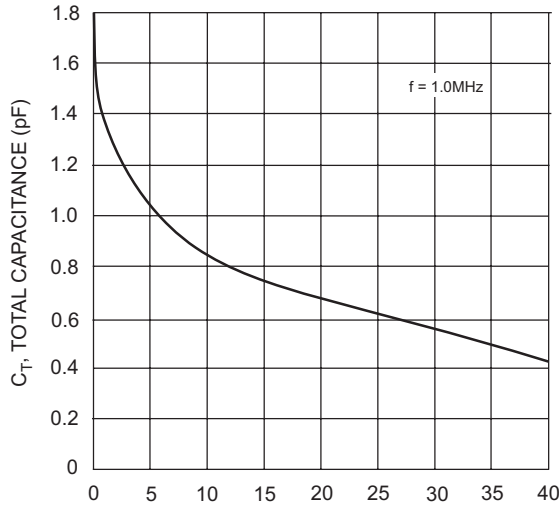
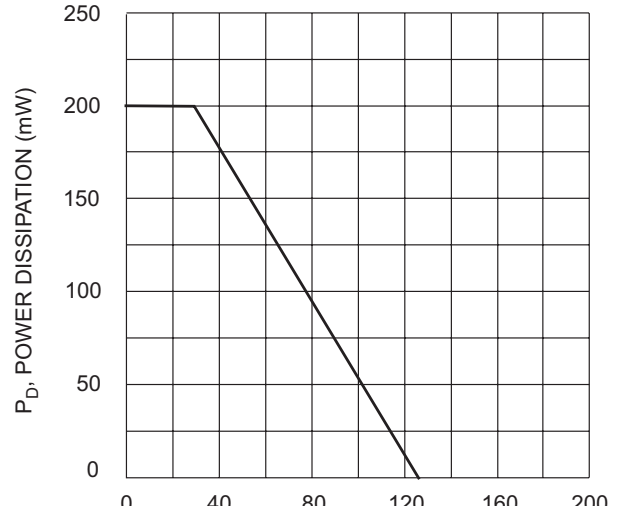


Fig. 2 Typical Reverse Characteristics



V<sub>R</sub>, REVERSE VOLTAGE (V)  
Fig. 3 Typical Capacitance



T<sub>A</sub>, AMBIENT TEMPERATURE (°C)  
Fig. 4 Power Derating Curve

**Ordering Information** (Note 4)

Device	Packaging	Shipping
SD101AWS-7-F	SOD-323	3000/Tape & Reel
SD101BWS-7-F	SOD-323	3000/Tape & Reel
SD101CWS-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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