

## 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 1)**
- **“Green” Device (Note 2)**

## Mechanical Data

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



Top View

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

Characteristic	Symbol	SD101AWS	SD101BWS	SD101CWS	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$				
Working Peak Reverse Voltage	$V_{RWM}$	60	50	40	V
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	42	35	28	V
Forward Continuous Current (Note 3)	$I_{FM}$		15		mA
Non-Repetitive Peak Forward Surge Current	@ $t \leq 1.0\text{s}$		50		mA
	@ $t = 10\mu\text{s}$		2.0		

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	$P_D$	200	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +125	$^\circ\text{C}$

- Notes:
1. No purposefully added lead.
  2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com/>
  3. 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>.

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 4)	SD101AWS SD101BWS SD101CWS	V <sub>(BR)R</sub>	60 50 40	—	—	V	I <sub>R</sub> = 10μA I <sub>R</sub> = 10μA I <sub>R</sub> = 10μA
Forward Voltage Drop	SD101AWS SD101BWS SD101CWS SD101AWS SD101BWS SD101CWS	V <sub>FM</sub>	—	—	0.41 0.40 0.39 1.00 0.95 0.90	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 1.0mA I <sub>F</sub> = 1.0mA I <sub>F</sub> = 15mA I <sub>F</sub> = 15mA I <sub>F</sub> = 15mA
Peak Reverse Current (Note 4)	SD101AWS SD101BWS SD101CWS	I <sub>RM</sub>	—	—	200	μA	V <sub>R</sub> = 50V V <sub>R</sub> = 40V V <sub>R</sub> = 30V
Total Capacitance	SD101AWS SD101BWS SD101CWS	C <sub>T</sub>	—	—	2.0 2.1 2.2	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time		t <sub>rr</sub>	—	—	1.0	ns	I <sub>F</sub> = I <sub>R</sub> = 5.0mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

Notes: 4. Short duration pulse test used to minimize self-heating effect.

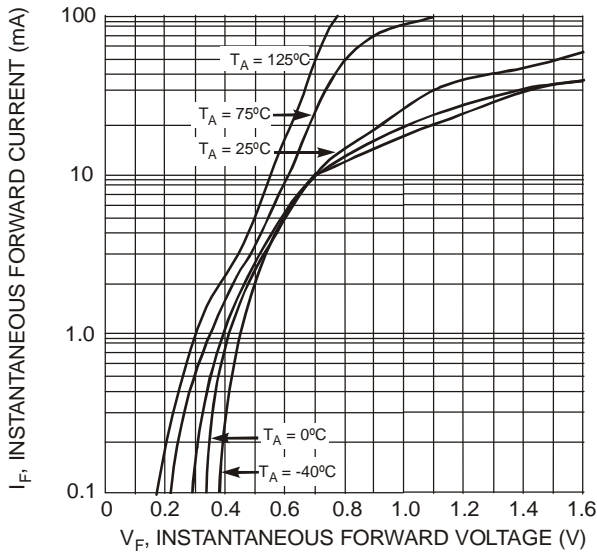


Fig. 1 Typical Forward Characteristics

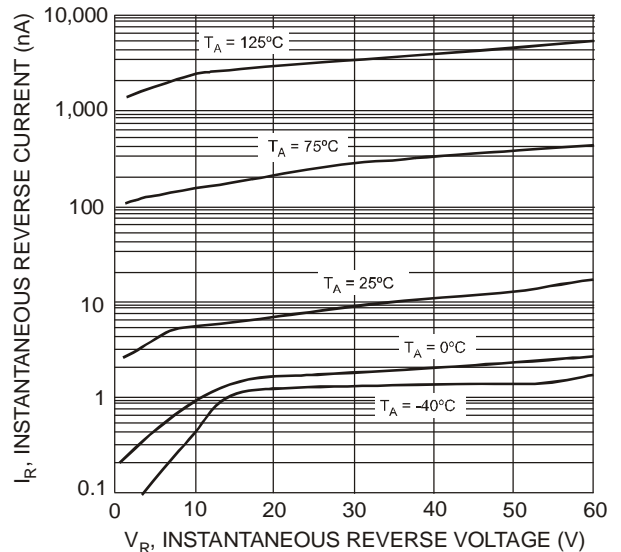


Fig. 2 Typical Reverse Characteristics

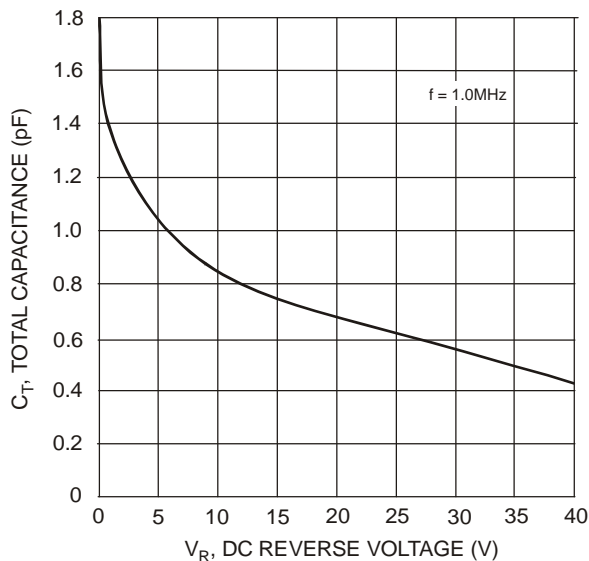


Fig. 3 Total Capacitance vs. Reverse Voltage

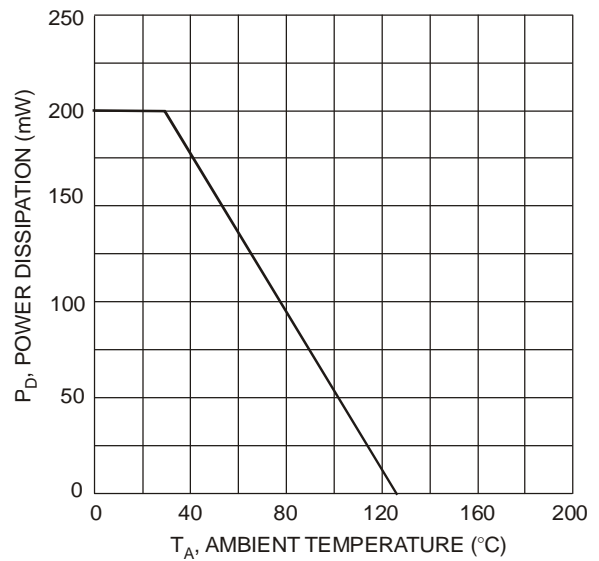


Fig. 4 Power Derating Curve

**Ordering Information** (Note 5)

Part Number	Case	Packaging
SD101AWS-7-F	SOD-323	3000/Tape & Reel
SD101BWS-7-F	SOD-323	3000/Tape & Reel
SD101CWS-7-F	SOD-323	3000/Tape & Reel

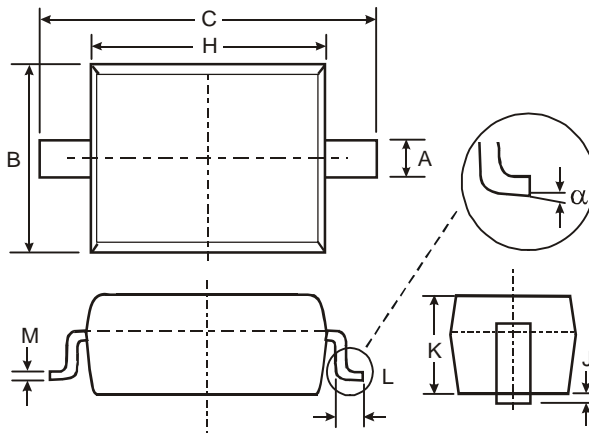
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



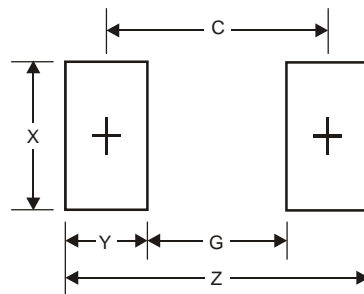
xx = Product Type Marking Code  
 S1 or SK = SD101AWS  
 S2 or SK = SD101BWS  
 S3 or SC or SK = SD101CWS

**Package Outline Dimensions**



SOD-323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
$\alpha$	0°	8°
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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