

**Features**

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance
- Ultra-Small Surface Mount Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

**Mechanical Data**

- Package: SOD323
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity: Cathode Band
- Terminals: Finish - Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208@3
- Weight: 0.004 grams (Approximate)



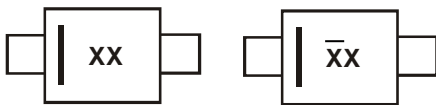
Top View

**Ordering Information** (Note 4)

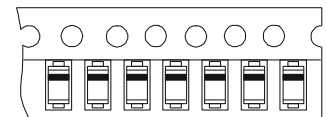
Part Number	Package	Packing	
		Qty.	Carrier
SD101AWS-7-F	SOD323	3000	Tape & Reel
SD101BWS-7-F	SOD323	3000	Tape & Reel
SD101CWS-7-F	SOD323	3000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

**Marking Information**



xx = Product Type Marking Code  
 S1 or SK &  $\bar{S}1$  or  $\bar{S}K$  = SD101AWS  
 S2 or SK &  $\bar{S}2$  or  $\bar{S}K$  = SD101BWS  
 S3 or SC or SK &  $\bar{S}3$  or  $\bar{S}C$  or  $\bar{S}K$  = SD101CWS



**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	SD101AWS	SD101BWS	SD101CWS	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	60	50	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>				
DC Blocking Voltage	V <sub>R</sub>				
RMS Reverse Voltage	V <sub>R(RMS)</sub>	42	35	28	V
Forward Continuous Current (Note 5)	I <sub>FM</sub>	15			mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	50			mA
@ t ≤ 1.0s					A
@ t = 10μs		2.0			

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 6)	SD101AWS	V <sub>(BR)R</sub>	60	—	—	V	I <sub>R</sub> = 10μA
	SD101BWS		50	—	—		I <sub>R</sub> = 10μA
	SD101CWS		40	—	—		I <sub>R</sub> = 10μA
Forward Voltage Drop	SD101AWS	V <sub>FM</sub>	—	—	0.41	V	I <sub>F</sub> = 1.0mA
	SD101BWS		—	—	0.40		I <sub>F</sub> = 1.0mA
	SD101CWS		—	—	0.39		I <sub>F</sub> = 1.0mA
	SD101AWS		—	—	1.00		I <sub>F</sub> = 15mA
	SD101BWS		—	—	0.95		I <sub>F</sub> = 15mA
	SD101CWS		—	—	0.90		I <sub>F</sub> = 15mA
Peak Reverse Current (Note 6)	SD101AWS	I <sub>RM</sub>	—	—	200	nA	V <sub>R</sub> = 50V
	SD101BWS		—	—	200		V <sub>R</sub> = 40V
	SD101CWS		—	—	200		V <sub>R</sub> = 30V
Total Capacitance	SD101AWS	C <sub>T</sub>	—	—	2.0	pF	V <sub>R</sub> = 0V, f = 1.0MHz
	SD101BWS		—	—	2.1		V <sub>R</sub> = 0V, f = 1.0MHz
	SD101CWS		—	—	2.2		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: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.  
6. Short duration pulse test used to minimize self-heating effect.

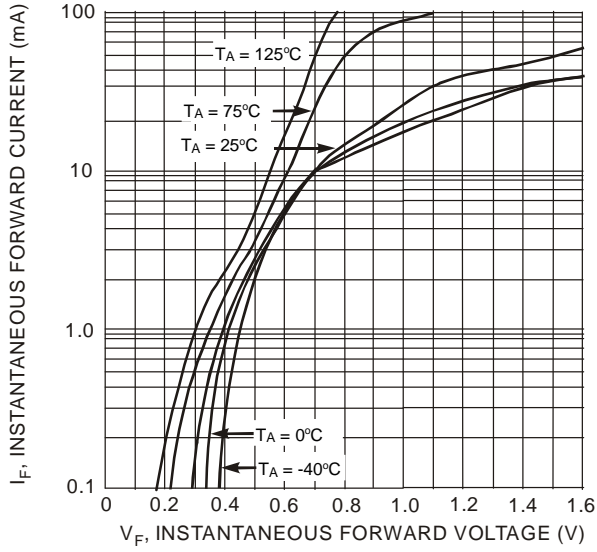


Fig. 1 Typical Forward Characteristics

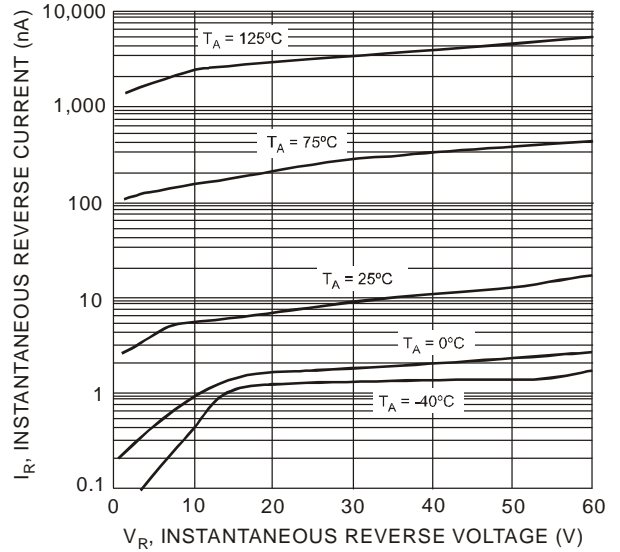


Fig. 2 Typical Reverse Characteristics

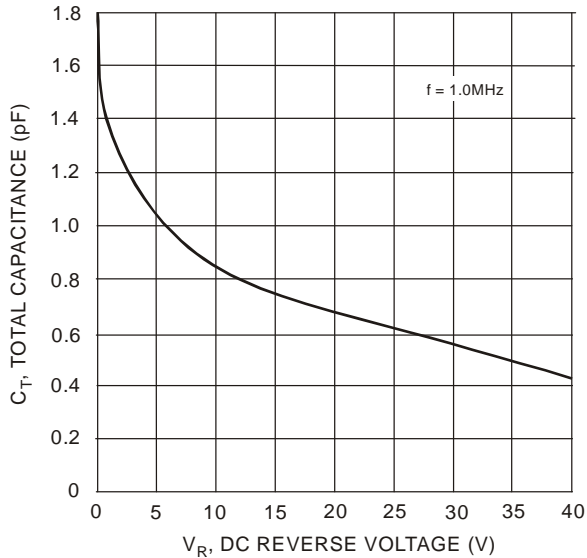


Fig. 3 Total Capacitance vs. Reverse Voltage

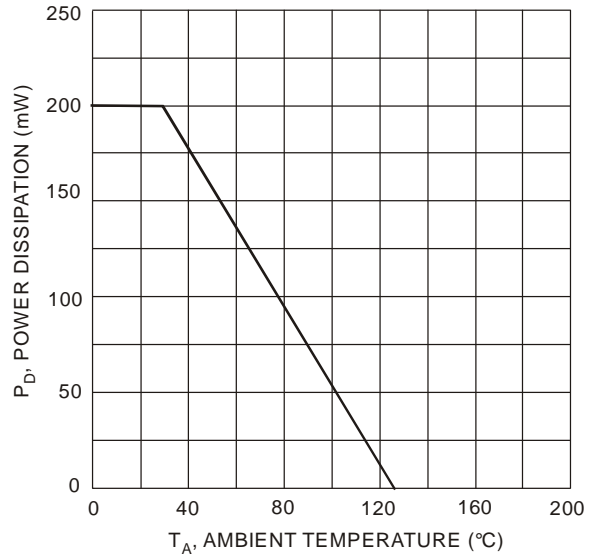
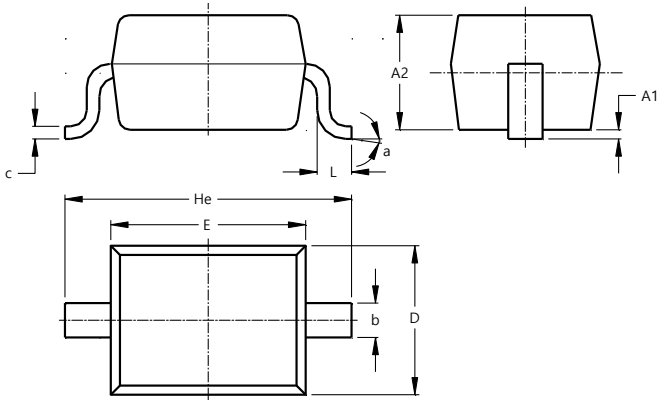


Fig. 4 Power Derating Curve

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SOD323**

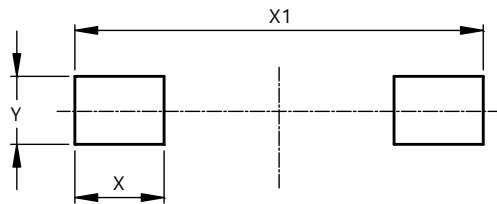


SOD323			
Dim	Min	Max	Typ
A1	--	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SOD323**



Dimensions	Value (in mm)
X	0.590
X1	2.700
Y	0.450

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