



# SD101AWS - SD101CWS

#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

#### **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: SOD323
- 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
- Weight: 0.004 grams (approximate)



Top View

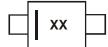
### **Ordering Information** (Note 3)

Part Number	Case	Packaging
SD101AWS-7-F	SOD323	3000/Tape & Reel
SD101BWS-7-F	SOD323	3000/Tape & Reel
SD101CWS-7-F	SOD323	3000/Tape & Reel

Notes:

- 1. No purposefully added lead.
- 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/
- 3. For packaging details, go to our website at http://www.diodes.com.

# **Marking Information**



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



## **Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic		Symbol	SD101AWS	SD101BWS	SD101CWS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	60	50	40	>
RMS Reverse Voltage		V <sub>R(RMS)</sub>	42	35	28	V
Forward Continuous Current (Note 4)		I <sub>FM</sub>		15		mA
Non-Repetitive Peak Forward Surge Current	@ t ≤ 1.0s @ t = 10μs	I <sub>FSM</sub>		50 2.0		mA

# **Thermal Characteristics**

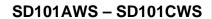
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	$P_{D}$	200	mW
Thermal Resistance, Junction to Ambient Air (Note 4)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

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

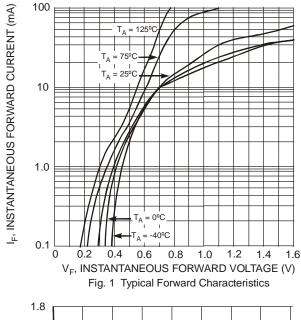
Characteristic		Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 5)	SD101AWS	V <sub>(BR)R</sub>	60	_	_	V	$I_R = 10\mu A$
	SD101BWS		50	_	_		$I_R = 10\mu A$
	SD101CWS		40	_	_		$I_R = 10\mu A$
Forward Voltage Drop	SD101AWS	V <sub>FM</sub>	_	_	0.41	V	$I_F = 1.0 \text{mA}$
	SD101BWS			_	0.40		$I_F = 1.0 \text{mA}$
	SD101CWS		_	_	0.39		$I_F = 1.0 \text{mA}$
	SD101AWS			_	1.00		$I_F = 15mA$
	SD101BWS			_	0.95		$I_F = 15mA$
	SD101CWS		_	_	0.90		$I_F = 15mA$
Peak Reverse Current (Note 5)	SD101AWS	I <sub>RM</sub>		_	200	nA	$V_R = 50V$
	SD101BWS		_	_	200		$V_R = 40V$
	SD101CWS			_	200		$V_R = 30V$
Total Capacitance	SD101AWS	Ст		_	2.0	pF	$V_R = 0V$ , $f = 1.0MHz$
	SD101BWS		_	_	2.1		$V_R = 0V$ , $f = 1.0MHz$
	SD101CWS			_	2.2		$V_R = 0V$ , $f = 1.0MHz$
Reverse Recovery Time		t <sub>rr</sub>			1.0	ns	$I_F = I_R = 5.0 \text{mA},$
							$I_{rr} = 0.1 \text{ x } I_{R}, R_{L} = 100\Omega$

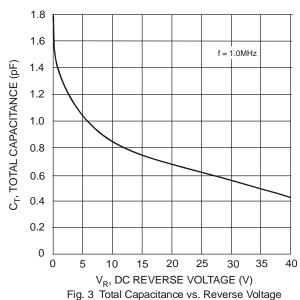
Notes: 4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.

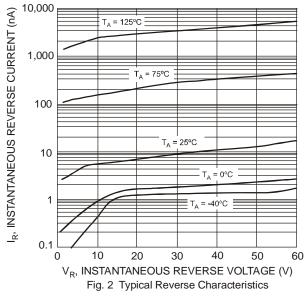
<sup>5.</sup> Short duration pulse test used to minimize self-heating effect.

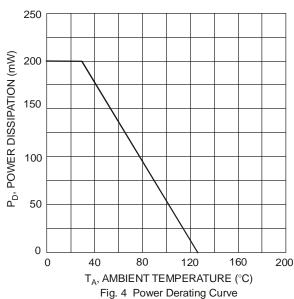




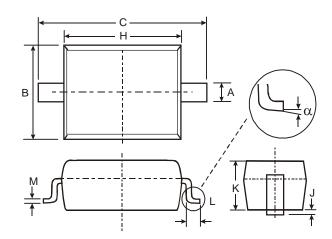








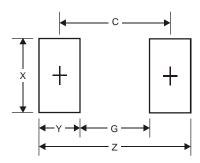
# Package Outline Dimensions



SOD323					
Dim	Min	Max			
Α	0.25	0.35			
В	1.20 1.40				
C	2.30	2.70			
Η	1.60	1.80			
J	0.00	0.10			
K	1.0	1.1			
L	0.20	0.40			
M	0.10	0.15			
α	0°	8°			
All Dimensions in mm					



### **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	3.75
G	1.05
Х	0.65
Υ	1.35
С	2.40

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