



### **SD101AW - SD101CW**

#### SCHOTTKY BARRIER SWITCHING DIODE

#### **Features**

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Very Low Reverse Capacitance
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2 and 3)

#### **Mechanical Data**

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 • leadframe)
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



Top View

#### Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified SD101AW SD101BW SD101CW Characteristic Symbol Unit Peak Repetitive Reverse Voltage V<sub>RRM</sub> Working Peak Reverse Voltage 60 50 40 V V<sub>RWM</sub> DC Blocking Voltage $V_R$ **RMS Reverse Voltage** V<sub>R(RMS)</sub> 42 35 28 V Forward Continuous Current (Note 1) 15 mΑ $I_{FM}$ Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s 50 mΑ IFSM 2.0 @ t = 10µs А

## Thermal Characteristics

Notes:

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	PD	400	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	300	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf. 1

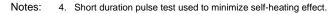
2

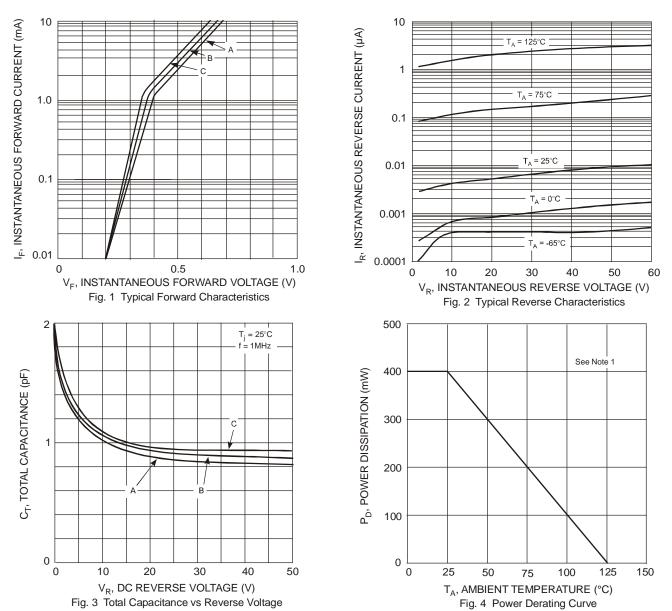
No purposefully added lead. Halogen and Antimony Free. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 3. V9 are built with Non-Green Molding Compound and may contain Halogens or Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.



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

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	SD101AW SD101BW SD101CW	V <sub>(BR)R</sub>	60 50 40	_	V	$\begin{split} I_{R} &= 10 \mu A \\ I_{R} &= 10 \mu A \\ I_{R} &= 10 \mu A \end{split}$
Forward Voltage Drop	SD101AW SD101BW SD101CW SD101AW SD101BW SD101CW	V <sub>FM</sub>	_	0.41 0.40 0.39 1.00 0.95 0.90	V	$I_{F} = 1.0mA$ $I_{F} = 1.0mA$ $I_{F} = 1.0mA$ $I_{F} = 15mA$ $I_{F} = 15mA$ $I_{F} = 15mA$
Peak Reverse Current (Note 4)	SD101AW SD101BW SD101CW	I <sub>RM</sub>	_	200	nA	V <sub>R</sub> = 50V V <sub>R</sub> = 40V V <sub>R</sub> = 30V
Total Capacitance	SD101AW SD101BW SD101CW	Ст	_	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	$I_F = I_R = 5.0 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$





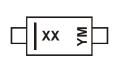


#### Ordering Information (Note 5)

Part Number	Case	Packaging				
SD101xW-7-F	SOD-123	3000/Tape and Reel				
SD101xW-13-F	SOD-123	10,000/Tape and 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 = SD101AW S2 or SK = SD101BW S3 or SK = SD101CW YM = Date Code Marking Y = Year (ex: T = 2006) M = Month (ex: 9 = September)

Value (in mm)

2.5

0.7

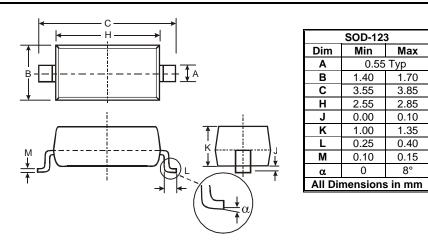
1.2

3.7

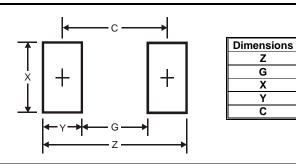
Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	J	К	L	М	Ν	Р	R	S	Т	U	V	W	Х	Y	Z	А	В	С
Month	Ja	in	Feb	N	lar	Apr	М	ay	Jun	Jı	ul 🛛	Aug	Se	р	Oct	Nov	/	Dec
Code	1		2		3	4		5	6	7	7	8	9		0	N		D

#### Package Outline Dimensions



#### **Suggested Pad Layout**



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