



**B140WS** 

### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### **Features**

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

## **Mechanical Data**

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Rating Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity: Cathode Band
- Terminals: Finish Matte Tin Annealed Over Alloy 42 leadframe.
  Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.004 grams (approximate)

SOD323



Top View

## **Ordering Information** (Note 4)

Ī	Part Number	Case	Packaging
	B140WS-7	SOD323	3000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com 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 http://www.diodes.com.

## **Marking Information**



SF = Product Type Marking Code



# **Maximum Ratings** ( $@T_A = +25^{\circ}C$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Average Rectified Output Current	l <sub>0</sub>	1	А
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	3	А

### **Thermal Characteristics**

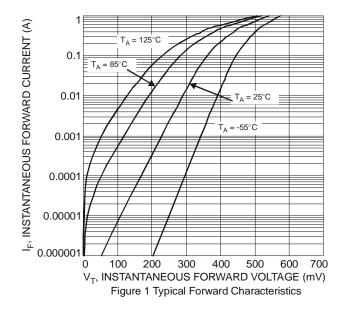
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_{D}$	235	mW
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{ heta JA}$	426	°C/W
Operating and Storage Temperature Range	T <sub>J,</sub> T <sub>STG</sub>	-40 to +125	°C

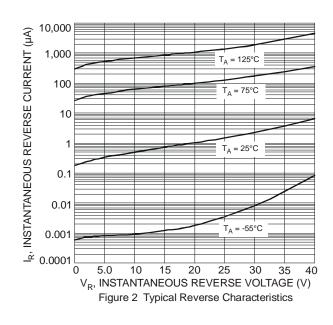
## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	40			V	$I_R = 1mA$
Forward Voltage	V <sub>F</sub>	_	0.54	0.62	V	I <sub>F</sub> = 1A
Reverse Current (Note 6)	$I_R$		2.0	50	μΑ	$V_R = 40V$
Total Capacitance	Ст		125 20	_		$V_R = 0V, f = 1.0MHz$ $V_R = 10V, f = 1.0MHz$

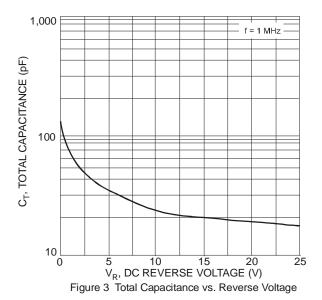
Notes:

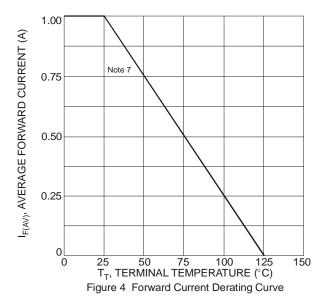
- 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 6. Short duration pulse test used to minimize self-heating effect.
- 7. d  $P_{TDT}$  / d  $T_J$  <  $1/R_{\theta JA}$





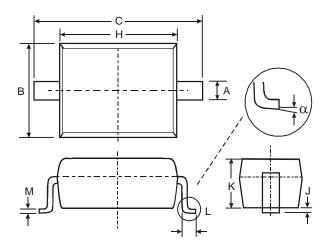






# **Package Outline Dimensions**

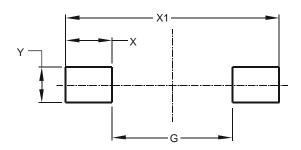
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



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

# **Suggested Pad Layout**

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
G	1.520
Х	0.590
X1	2.700
Υ	0.450



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