



**B0540WS** 

#### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### **Features**

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Lead Free By Design/RoHS Compliant (Note 3)
- "Green" Device (Note 4)

### **Mechanical Data**

- Case: SOD-323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Rating Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- · Polarity: Cathode Band
- Terminals: Finish Matte Tin Annealed Over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
  Ordering Information: See Page 2
  Weight: 0.004 grams (approximate)



Top View

### **Maximum Ratings** @T<sub>A</sub> = 25°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	V
RMS Reverse Voltage	V <sub>R</sub> (RMS)	28	V
Average Rectified Output Current	Io	0.5	A
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 1)	P <sub>D</sub>	235	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{ hetaJA}$	426	°C/W
Operating and Storage Temperature Range	$T_{J_1}T_{STG}$	-40 to +125	°C

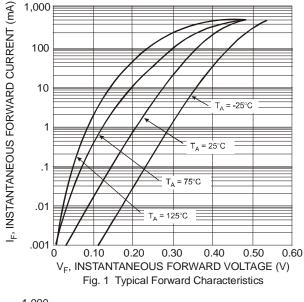
### **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

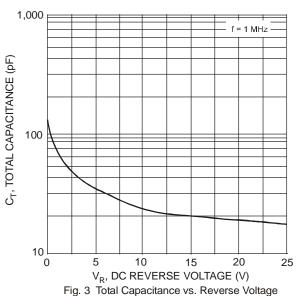
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40		_	V	$I_R = 1 \text{mA}$
Forward Voltage	VF		285	300		I <sub>F</sub> = 10mA
1 of ward voltage	٧F		480	550	111 V	$I_F = 500 \text{mA}$
Reverse Current (Note 2)	1-	_	1.0	3	μΑ	$V_R = 10V$
Reverse Current (Note 2)	IR	_	2.0	5	μΑ	$V_R = 30V$
Total Capacitance	Ст	_	125		pF	$V_R = 0V$ , $f = 1.0MHz$
Total Capacitance	ΟT	_	20	_	pF	$V_R = 10V, f = 1.0MHz$

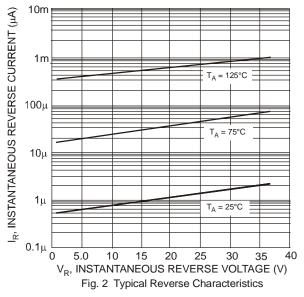
Notes:

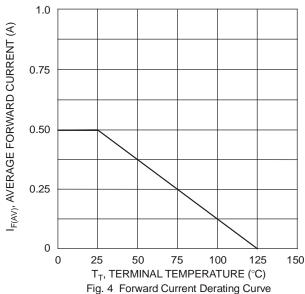
- 1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 2. Short duration pulse test used to minimize self-heating effect.
- 3. No purposefully added Lead.
- Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.











## Ordering Information (Note 5)

Part Number	Case	Packaging
B0540WS-7	SOD-323	3000/Tape & Reel

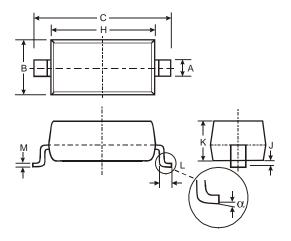
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



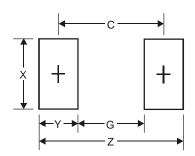


## **Package Outline Dimensions**



SOD-323				
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		
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
Y	1.35
С	2.40

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