

# NSR0320MW2T1

## Schottky Barrier Diode

These Schottky barrier diodes are designed for high current, handling capability, and low forward voltage performance.

- Low Forward Voltage – 0.24 Volts (Typ) @  $I_F = 10$  mAdc
- High Current Capability
- ESD Rating – Human Body Model: CLASS 3B  
– Machine Model: C
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

### MAXIMUM RATINGS ( $T_J = 125^\circ\text{C}$ unless otherwise noted)

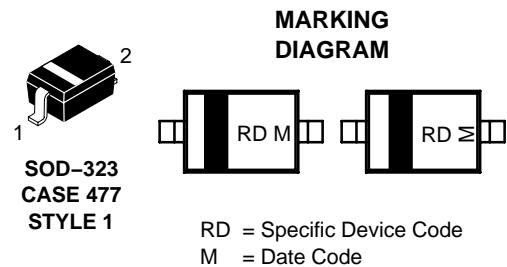
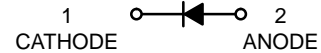
Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	20	Vdc
Peak Reverse Voltage	$V_{RM}$	23	V
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_F$	200 2.0	mW mW/ $^\circ\text{C}$
Forward Current (DC) Continuous	$I_F$	1	A
Forward Current $t = 8.3$ ms Half Sinewave	$I_F$	5	A
Junction Temperature	$T_J$	125 Max	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$



**ON Semiconductor®**

<http://onsemi.com>

## HIGH CURRENT SCHOTTKY BARRIER DIODE



### ORDERING INFORMATION

Device	Package	Shipping†
NSR0320MW2T1	SOD-323	3000/Tape & Reel
NSR0320MW2T3	SOD-323	10,000/Tape & Reel
NSR0320MW2T1G	SOD-323	3000/Tape & Reel
NSR0320MW2T3G	SOD-323	10,000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

# NSR0320MW2T1

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Total Capacitance ( $V_R = 5.0\text{ V}$ , $f = 1.0\text{ MHz}$ )	$C_T$	-	30	35	pF
Reverse Leakage ( $V_R = 15\text{ V}$ )	$I_R$	-	10	50	$\mu\text{A}_{dc}$
Reverse Leakage ( $V_R = 2.0\text{ V @ } 85^\circ\text{ C}$ )	$I_R$	-	200	300	$\mu\text{A}$
Reverse Leakage ( $V_R = 15.0\text{ V @ } 85^\circ\text{ C}$ )	$I_R$	-	450	1000	$\mu\text{A}$
Forward Voltage ( $I_F = 10\text{ mAdc}$ )	$V_F$	-	0.24	0.27	Vdc
Forward Voltage ( $I_F = 100\text{ mAdc}$ )	$V_F$	-	0.30	0.35	Vdc
Forward Voltage ( $I_F = 900\text{ mAdc}$ )	$V_F$	-	0.45	0.50	Vdc

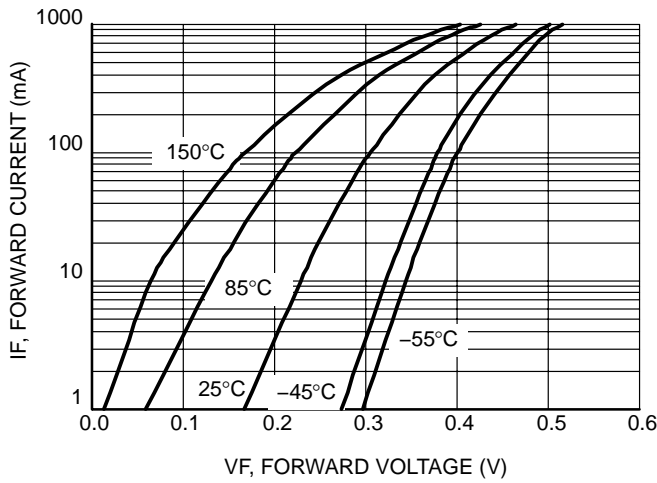


Figure 1. Forward Voltage

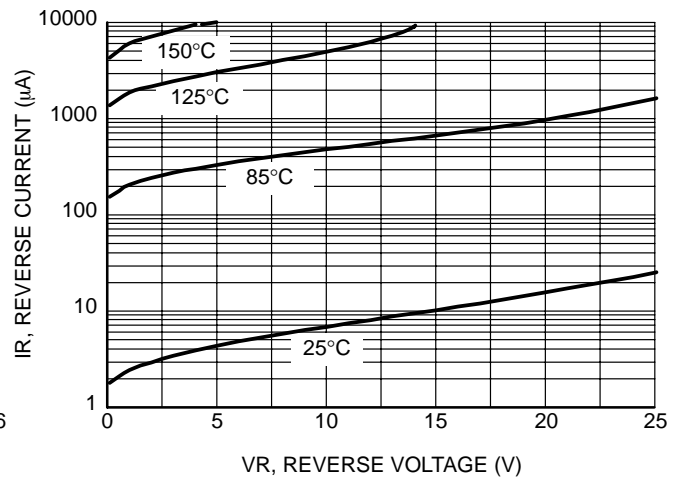


Figure 2. Leakage Current

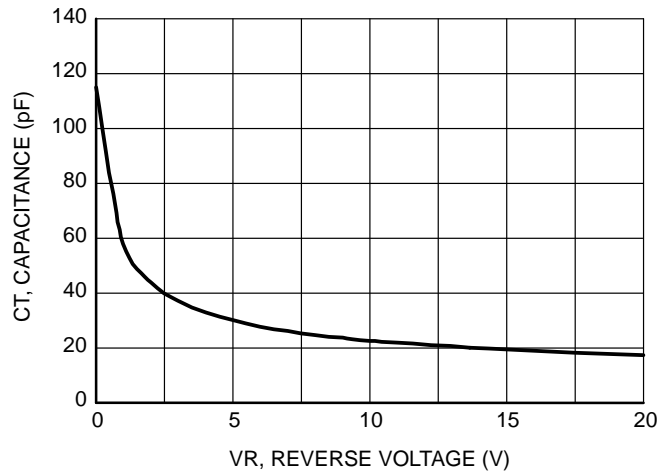
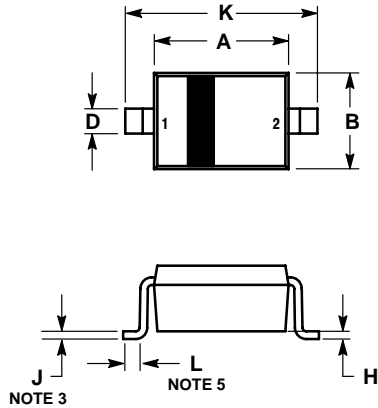


Figure 3. Total Capacitance

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## PACKAGE DIMENSIONS

**SOD-323**  
CASE 477-02  
ISSUE D



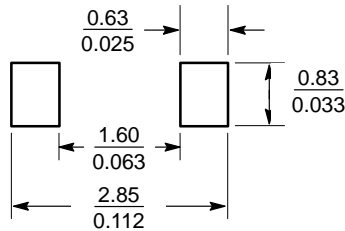
**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106
L	0.075	---	0.003	---

STYLE 1:  
PIN 1. CATHODE  
2. ANODE

## SOLDERING FOOTPRINT\*



SCALE 10:1  $\left( \frac{\text{mm}}{\text{inches}} \right)$

\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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