

# NSR0320MW2T1

## Schottky Barrier Diodes

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

### Features

- Low Forward Voltage – 0.24 Volts (Typ) @  $I_F = 10 \text{ mAdc}$
- High Current Capability
- ESD Rating – Human Body Model: CLASS 3B  
– Machine Model: C
- Pb-Free Packages are Available

### 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 $t = 8.3 \text{ ms}$ Half Sinewave	$I_F$	5	A
Junction Temperature	$T_J$	125 Max	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

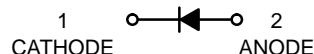
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



**ON Semiconductor®**

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## HIGH CURRENT SCHOTTKY BARRIER DIODE



### MARKING DIAGRAM



RD = Specific Device Code

M = Date Code

■ = Pb-Free Package

(Note: Microdot may be in either location)

### ORDERING INFORMATION

Device	Package	Shipping†
NSR0320MW2T1	SOD-323	3000/Tape & Reel
NSR0320MW2T1G	SOD-323 (Pb-Free)	3000/Tape & Reel
NSR0320MW2T3G	SOD-323 (Pb-Free)	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 ( $V_R = 5.0\text{ V}$ , $f = 1.0\text{ MHz}$ )	$C_T$	–	25	29	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

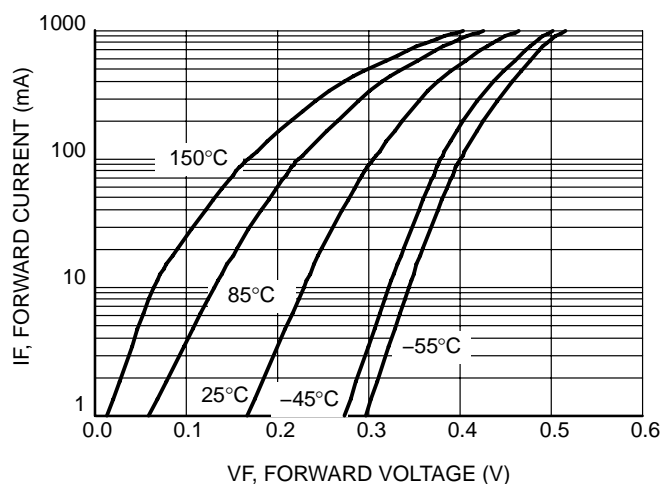


Figure 1. Forward Voltage

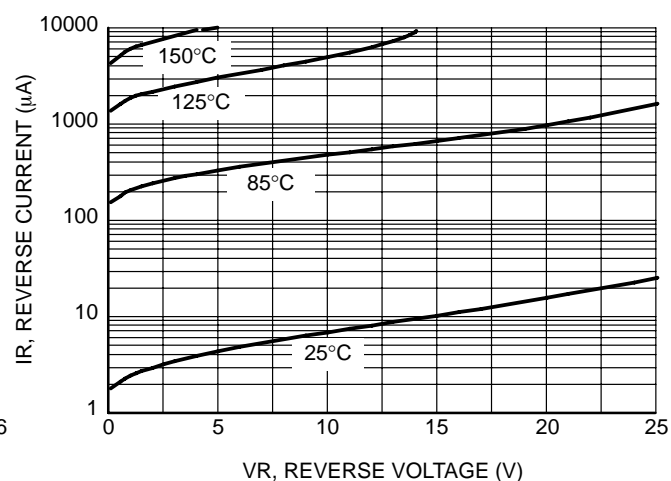


Figure 2. Leakage Current

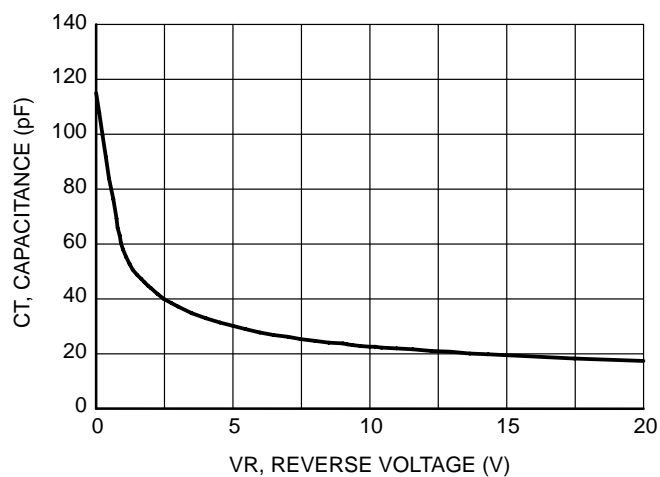
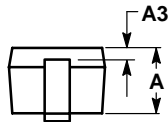
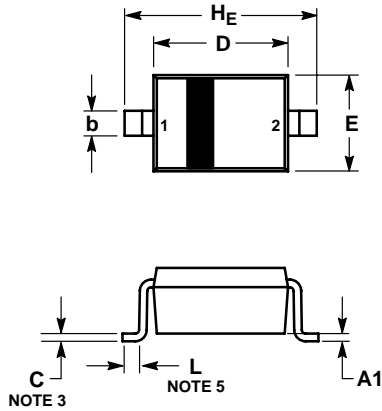


Figure 3. Total Capacitance

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## PACKAGE DIMENSIONS

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



### NOTES:

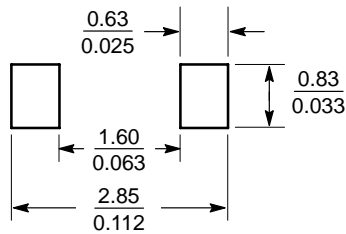
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105

### STYLE 1:


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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