Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!


## Contact us

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

# NSR0320MW2T1G, NSVR0320MW2T1G, NSR0320MW2T3G

# 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 mAdc
- High Current Capability
- ESD Rating:
  - ♦ Human Body Model: CLASS 3B
  - ♦ Machine Model: C
- AEC Qualified and PPAP Capable
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb–Free, Halogen Free/BFR Free and are RoHS Compliant*

**MAXIMUM RATINGS** ($T_J$ = 125°C unless otherwise noted)

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

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

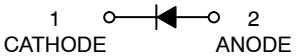
*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

**ON Semiconductor®**

**http://onsemi.com**

## HIGH CURRENT SCHOTTKY BARRIER DIODE

**SOD−323**
**CASE 477**
**STYLE 1**




**MARKING DIAGRAM**


RD = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

**ORDERING INFORMATION**

| Device | Package | Shipping† |
|---|---|---|
| NSR0320MW2T1G | SOD−323<br>(Pb−Free) | 3,000 /<br>Tape & Reel |
| NSVR0320MW2T1G | SOD−323<br>(Pb−Free) | 3,000 /<br>Tape & Reel |
| NSR0320MW2T3G | SOD−323<br>(Pb−Free) | 10,000 /<br>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.


**November, 2011 − Rev. 4**

Publication Order Number:
**NSR0320MW2T1/D**

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Total Capacitance ($V_R$ = 5.0 V, f = 1.0 MHz) | $C_T$ | – | 25 | 29 | pF |
| Reverse Leakage ($V_R$ = 15 V) | $I_R$ | – | 10 | 50 | μA |
| Reverse Leakage ($V_R$ = 2.0 V @ 85°C) | $I_R$ | – | 200 | 300 | μA |
| Reverse Leakage ($V_R$ = 15.0 V @ 85°C) | $I_R$ | – | 450 | 1000 | μA |
| Forward Voltage ($I_F$ = 10 mA) | $V_F$ | – | 0.24 | 0.27 | V |
| Forward Voltage ($I_F$ = 100 mA) | $V_F$ | – | 0.30 | 0.35 | V |
| Forward Voltage ($I_F$ = 900 mA) | $V_F$ | – | 0.45 | 0.50 | V |

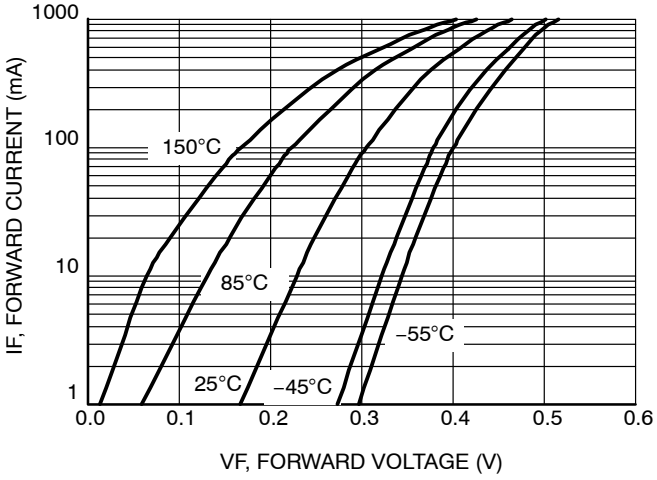



**Figure 1. Forward Voltage**

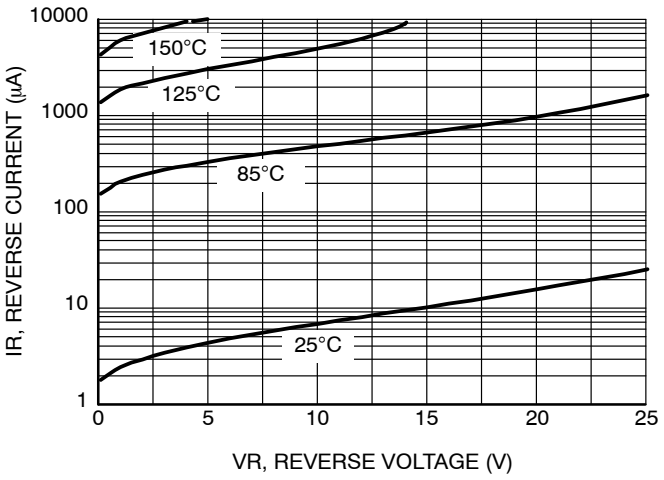



**Figure 2. Leakage Current**

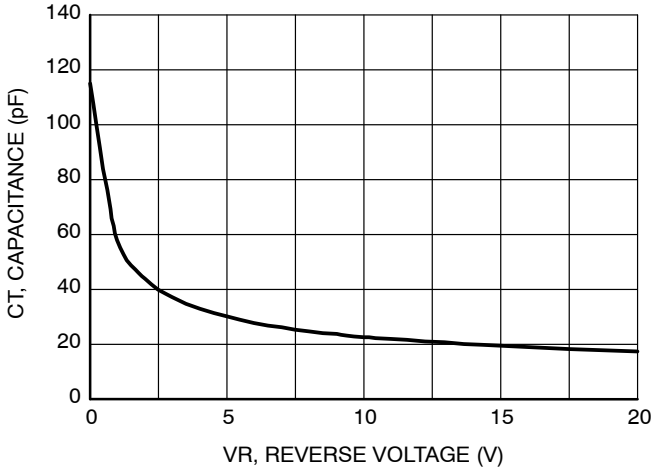
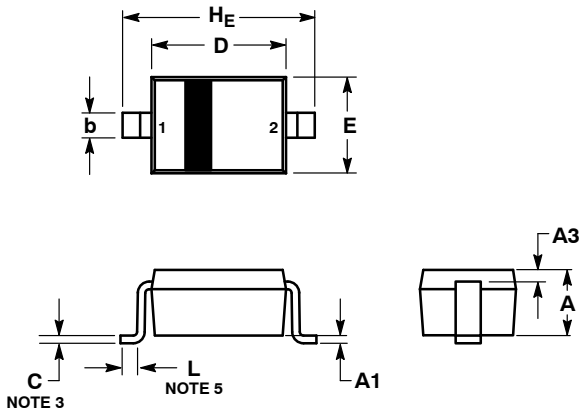



**Figure 3. Total Capacitance**

## PACKAGE DIMENSIONS

**SOD−323**
CASE 477−02
ISSUE H

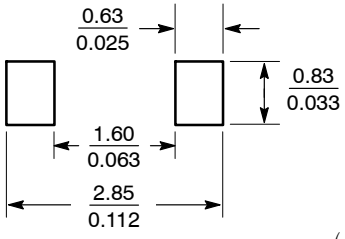



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | 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 | | |
| $H_E$ | 2.30 | 2.50 | 2.70 | 0.090 | 0.098 | 0.105 |

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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**NSR0320MW2T1/D**