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 @ T_A = 25°C Derate above 25°C	P_F	 200 2.0	 mW mW/°C
Forward Current (DC) Continuous	I_F	 1	 A
Forward Current t = 8.3 ms Half Sinewave	I_F	 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.

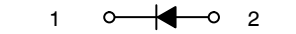
*For additional information on our Pb–Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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 (Pb–Free)	3,000 / Tape & Reel
NSVR0320MW2T1G	SOD–323 (Pb–Free)	3,000 / 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.

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

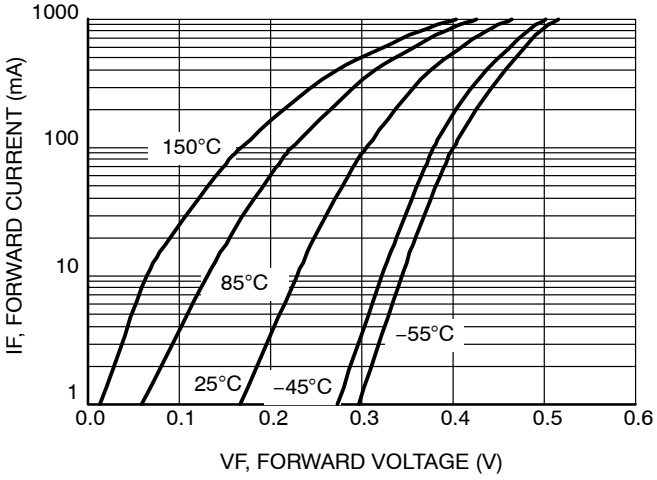


Figure 1. Forward Voltage

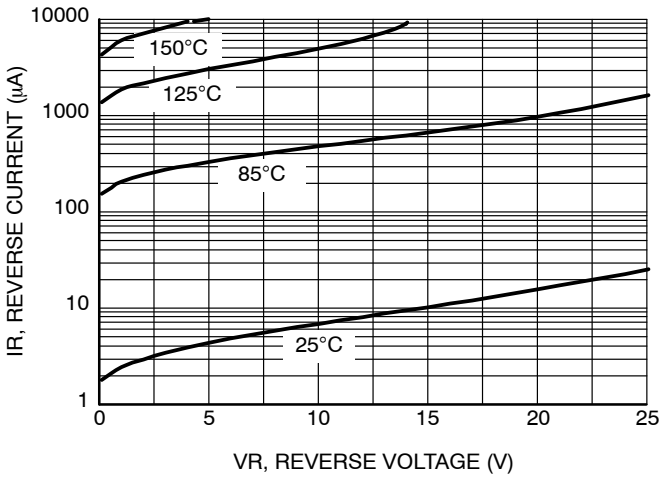


Figure 2. Leakage Current

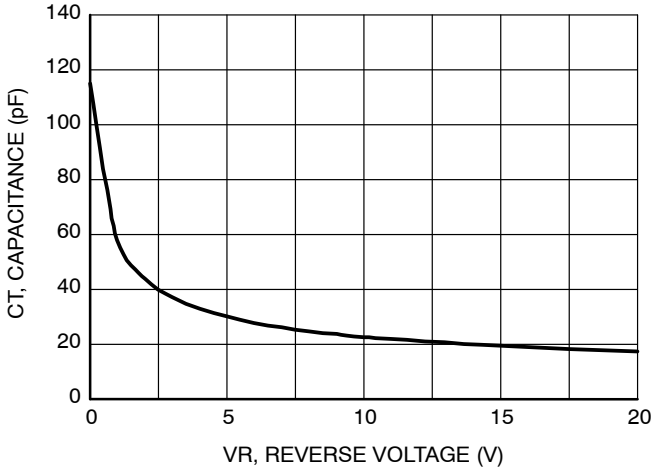
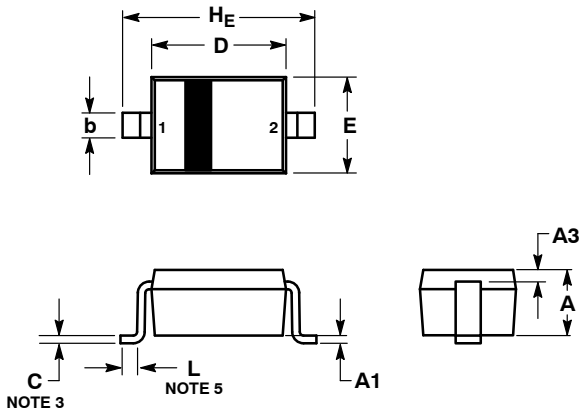


Figure 3. Total Capacitance

PACKAGE DIMENSIONS

SOD−323
CASE 477−02
ISSUE H

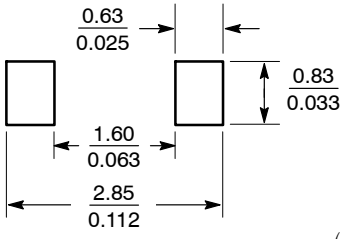


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

	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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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For additional information, please contact your local Sales Representative

NSR0320MW2T1/D

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