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 mAdc
- High Current Capability
- ESD Rating − Human Body Model: CLASS 3B
  − Machine Model: C
- Pb−Free Packages are Available

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

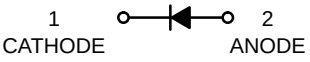
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Vdc
Peak Revese Voltage	V_{RM}	23	V
Forward Power Dissipation @ T_A = 25°C Derate above 25°C	P_F	 200 2.0	 mW mW/°C
Forward Current (DC) Continuous	I_F	 1	A
Forward Current t = 8.3 ms Half Sinewave	I_F	 5	A
Junction Temperature	T_J	125 Max	°C
Storage Temperature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

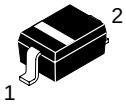
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

ON Semiconductor®

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†
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.

October, 2005 − Rev. 1

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	μAdc
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 mAdc)	V_F	−	0.24	0.27	Vdc
Forward Voltage (I_F = 100 mAdc)	V_F	−	0.30	0.35	Vdc
Forward Voltage (I_F = 900 mAdc)	V_F	−	0.45	0.50	Vdc

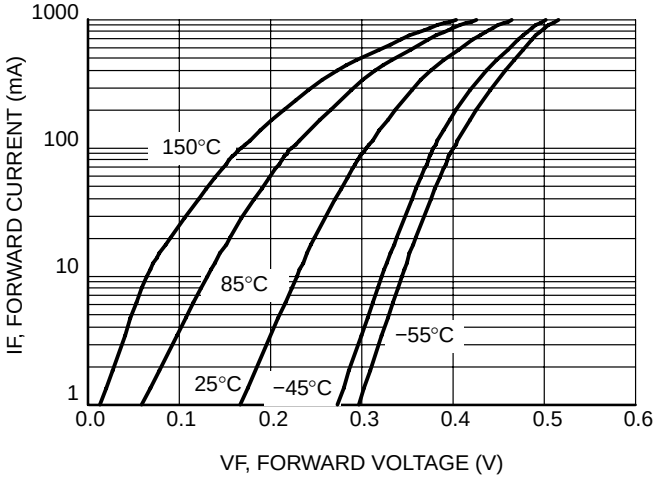


Figure 1. Forward Voltage

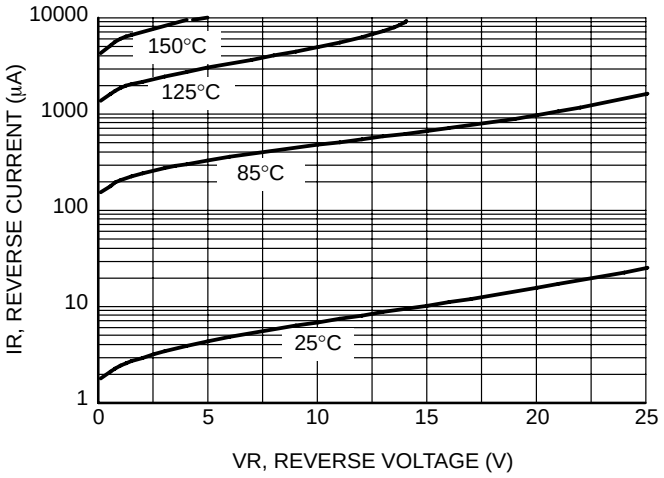


Figure 2. Leakage Current

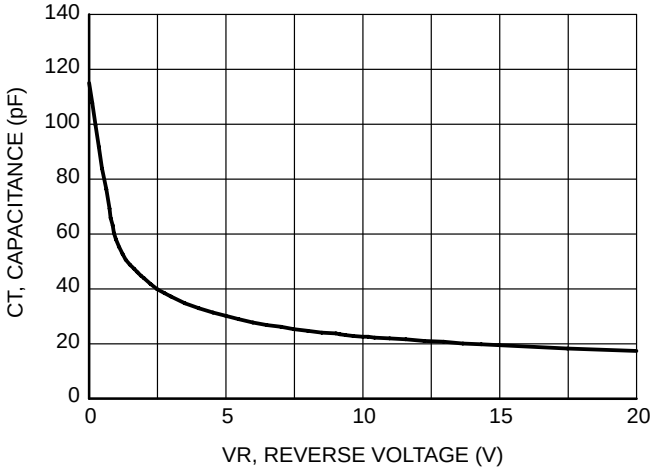
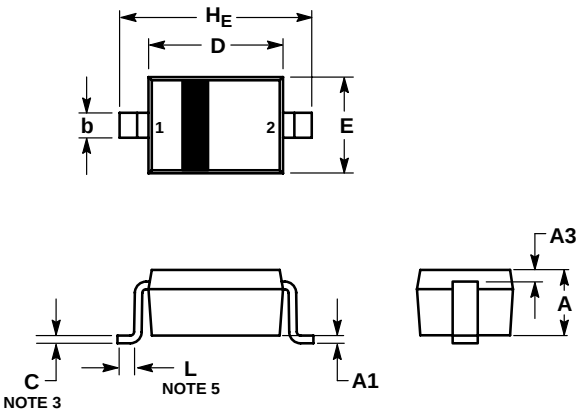


Figure 3. Total Capacitance

PACKAGE DIMENSIONS

SOD−323
CASE 477−02
ISSUE G

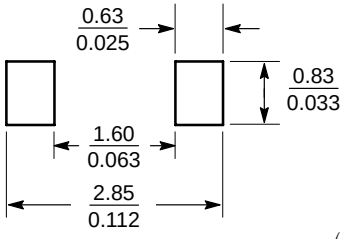


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

	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.