NSR0320XV6T1

Schottky Barrier Diode

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

Features

- Low Forward Voltage − 0.35 V (Typ) @ I_F = 10 mAdc
- High Current Capability
- These are Pb−Free Devices

ON Semiconductor®

http://onsemi.com

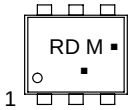
HIGH CURRENT SCHOTTKY BARRIER DIODE

1, 2, 5, 6 CATHODE — 3, 4 ANODE

1

SOT−563
CASE 463A
STYLE 5

MARKING DIAGRAM



RD = Specific Device Code
M = Month Code
▪ = Pb−Free Package
(Note: Microdot may be in either location)

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

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	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; JEDEC Method	I_F	7.5	A
Junction Temperature	T_J	125 Max	°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.

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	−	30	35	pF
Reverse Leakage (V_R = 15 V)	I_R	−	10	50	μAdc
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

ORDERING INFORMATION

Device	Package	Shipping†
NSR0320XV6T1	SOT−563*	4000/Tape & Reel
NSR0320XV6T1G	SOT−563*	4000/Tape & Reel
NSR0320XV6T5	SOT−563*	8000/Tape & Reel
NSR0320XV6T5G	SOT−563*	8000/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.

*This package is inherently Pb−Free.

February, 2007 − Rev. 6

Publication Order Number:
NSR0320XV6T1/D

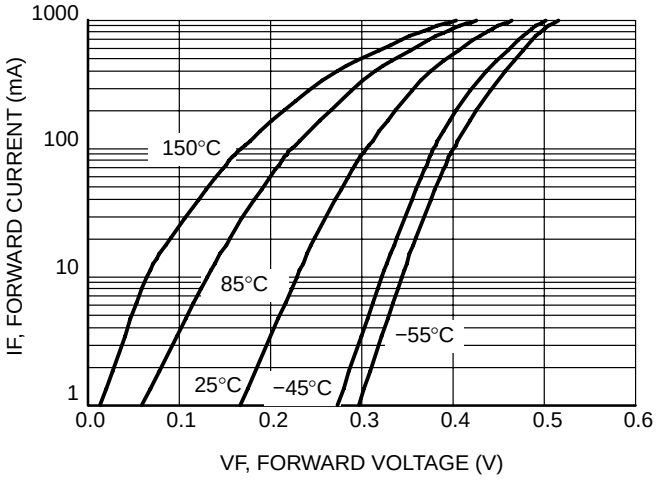


Figure 1. Forward Voltage

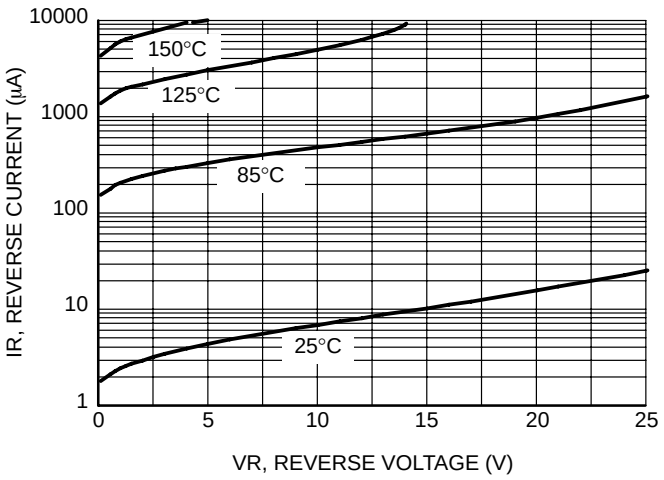


Figure 2. Leakage Current

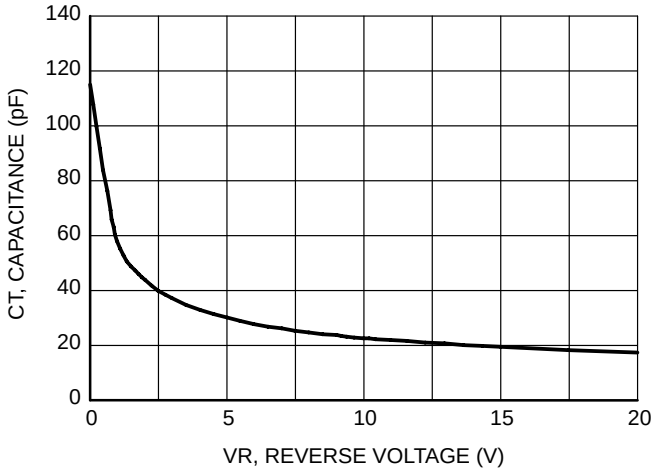
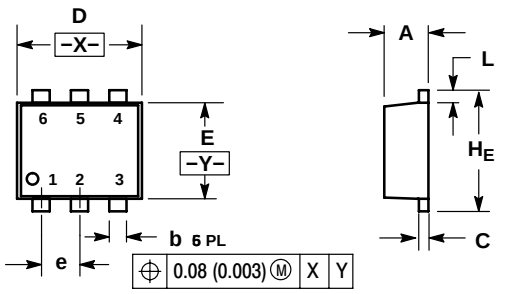


Figure 3. Total Capacitance

PACKAGE DIMENSIONS

SOT−563, 6 LEAD
CASE 463A−01
ISSUE F

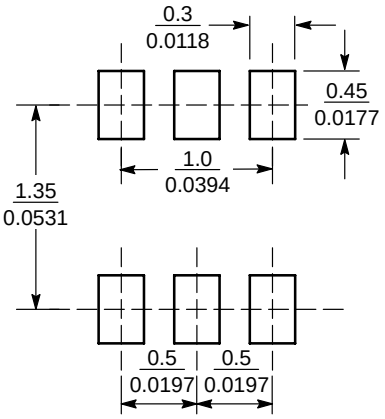


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.55	0.60	0.020	0.021	0.023
b	0.17	0.22	0.27	0.007	0.009	0.011
C	0.08	0.12	0.18	0.003	0.005	0.007
D	1.50	1.60	1.70	0.059	0.062	0.066
E	1.10	1.20	1.30	0.043	0.047	0.051
e	0.5 BSC			0.02 BSC		
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	1.50	1.60	1.70	0.059	0.062	0.066

STYLE 5:
PIN 1. CATHODE
2. CATHODE
3. ANODE
4. ANODE
5. CATHODE
6. CATHODE

SOLDERING FOOTPRINT*



*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:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
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Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

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Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

NSR0320XV6T1/D

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