NSR0320XV6

Schottky Barrier Diode

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

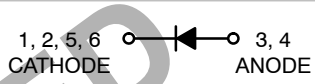
ON Semiconductor®

http://onsemi.com

HIGH CURRENT SCHOTTKY BARRIER DIODE

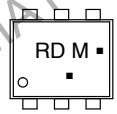
Features

- Low Forward Voltage – 0.35 V (Typ) @ I_F = 10 mAdc
- High Current Capability
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- These are Pb−Free Devices



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 those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

ORDERING INFORMATION

Device	Package	Shipping†
NSR0320XV6T1G	SOT−563 (Pb−Free)	4000 / Tape & Reel
NSVR0320XV6T1G	SOT−563 (Pb−Free)	4000 / Tape & Reel
NSR0320XV6T5G	SOT−563 (Pb−Free)	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.

January, 2026 – Rev. 8

Publication Order Number:
NSR0320XV6T1/D

TYPICAL ELECTRICAL CHARACTERISTICS

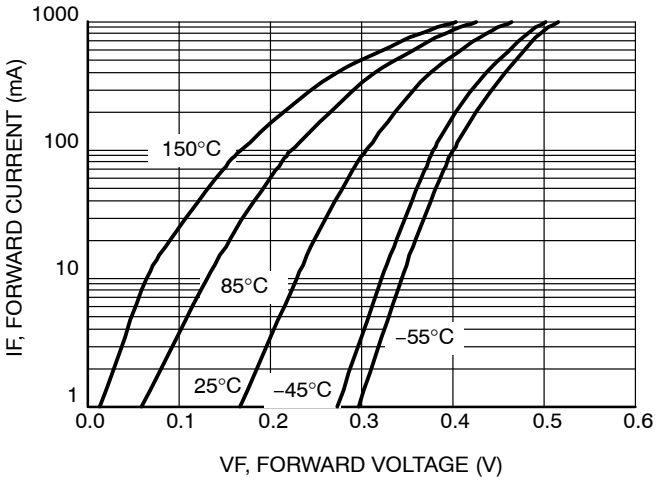


Figure 1. Forward Voltage

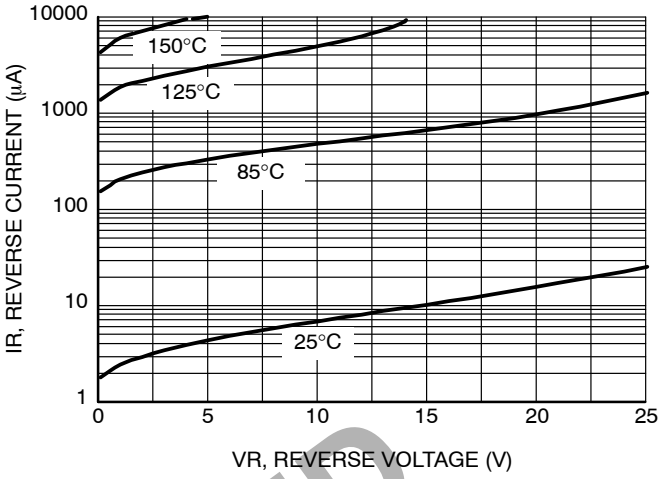


Figure 2. Leakage Current

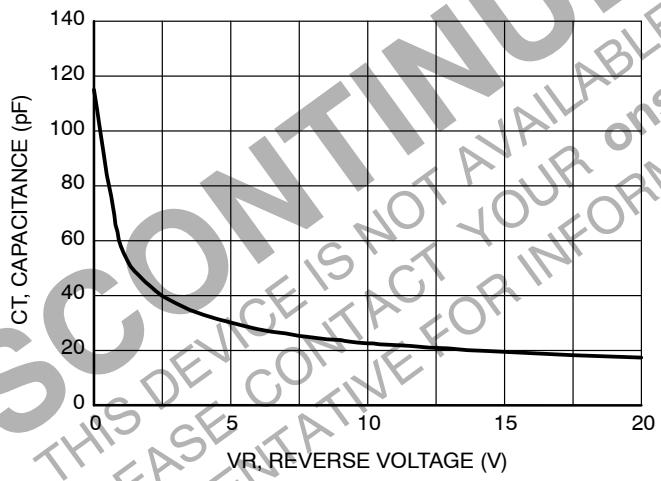
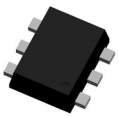


Figure 3. Total Capacitance

REVISION HISTORY

Revision	Description of Changes	Date
8	Document Discontinued.	1/19/2026

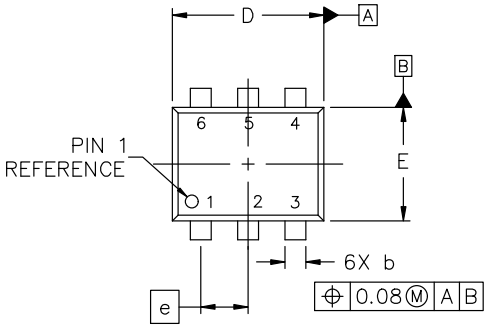
This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.



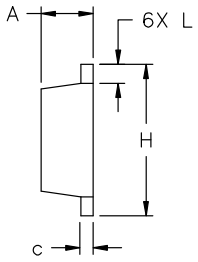
SOT−563−6 1.60x1.20x0.55, 0.50P
CASE 463A
ISSUE J

DATE 15 FEB 2024

NOTES:
1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5−2018.
2. ALL DIMENSION ARE IN MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

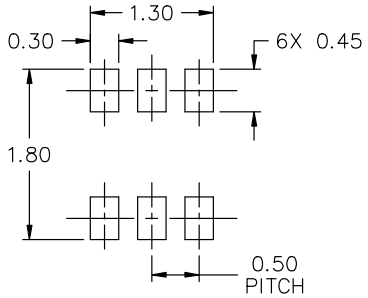


TOP VIEW



SIDE VIEW

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.50	0.55	0.60
b	0.17	0.22	0.27
c	0.08	0.13	0.18
D	1.50	1.60	1.70
E	1.10	1.20	1.30
e	0.50 BSC		
H	1.50	1.60	1.70
L	0.10	0.20	0.30



RECOMMENDED MOUNTING 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.

STYLE 1:
PIN 1. EMITTER 1
2. BASE 1
3. COLLECTOR 2
4. EMITTER 2
5. BASE 2
6. COLLECTOR 1

STYLE 2:
PIN 1. EMITTER 1
2. EMITTER 2
3. BASE 2
4. COLLECTOR 2
5. BASE 1
6. COLLECTOR 1

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

STYLE 4:
PIN 1. COLLECTOR
2. COLLECTOR
3. BASE
4. EMITTER
5. COLLECTOR
6. COLLECTOR

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

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

STYLE 7:
PIN 1. CATHODE
2. ANODE
3. CATHODE
4. CATHODE
5. ANODE
6. CATHODE

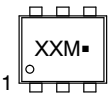
STYLE 8:
PIN 1. DRAIN
2. DRAIN
3. GATE
4. SOURCE
5. DRAIN
6. DRAIN

STYLE 9:
PIN 1. SOURCE 1
2. GATE 1
3. DRAIN 2
4. SOURCE 2
5. GATE 2
6. DRAIN 1

STYLE 10:
PIN 1. CATHODE 1
2. N/C
3. CATHODE 2
4. ANODE 2
5. N/C
6. ANODE 1

STYLE 11:
PIN 1. EMITTER 2
2. BASE 2
3. COLLECTOR 1
4. EMITTER 1
5. BASE 1
6. COLLECTOR 2

GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Month Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

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DESCRIPTION:	SOT−563−6 1.60x1.20x0.55, 0.50P	PAGE 1 OF 1

ADDITIONAL INFORMATION

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