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

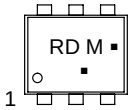
HIGH CURRENT SCHOTTKY BARRIER DIODE

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

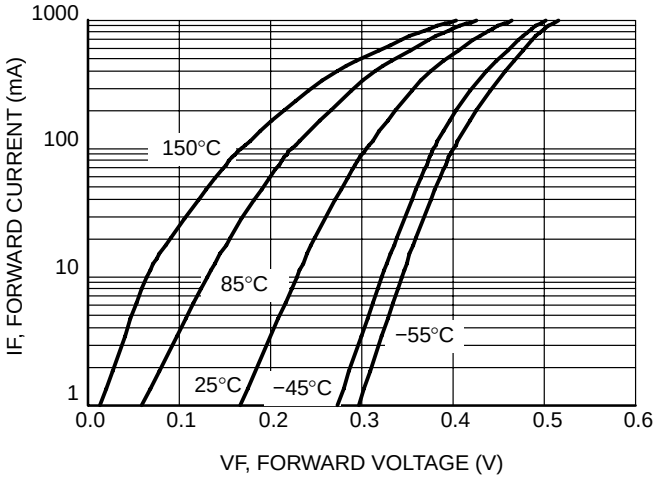


Figure 1. Forward Voltage

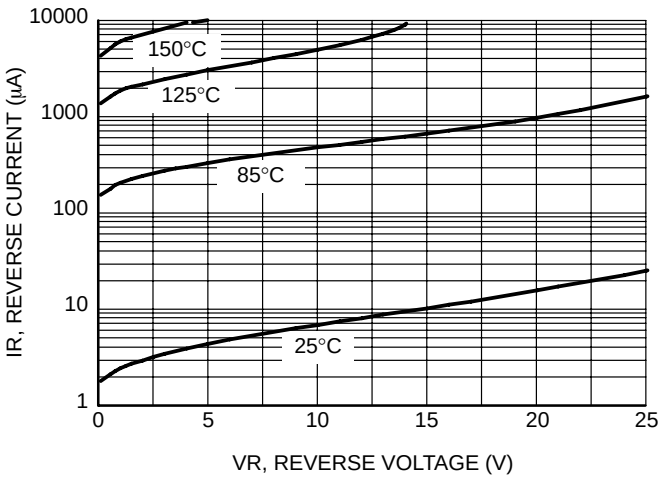


Figure 2. Leakage Current

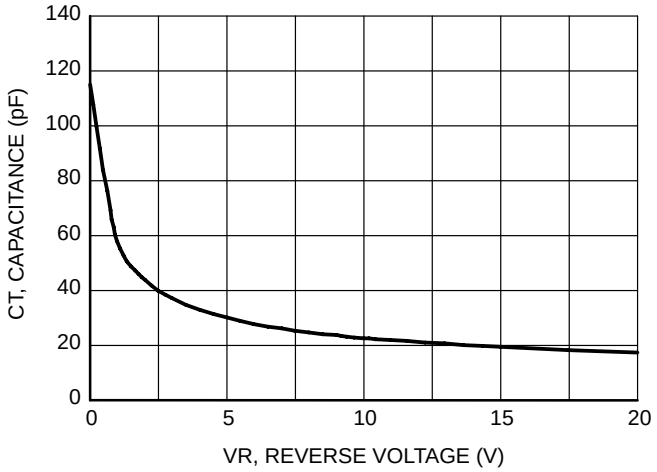
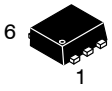


Figure 3. Total Capacitance

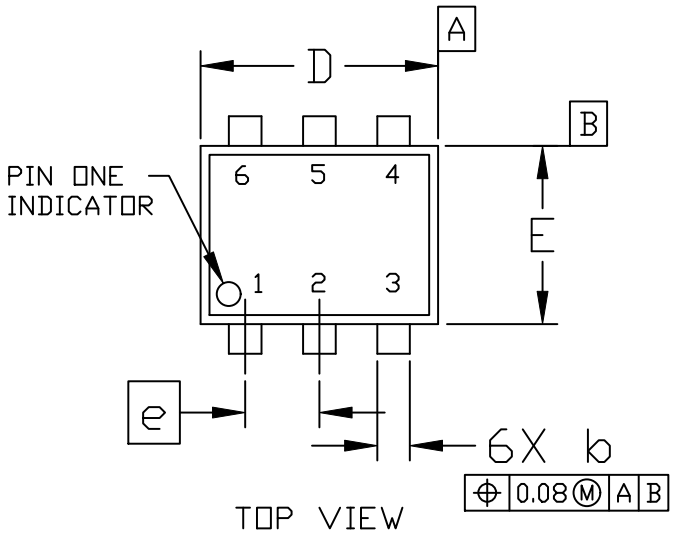


SCALE 4:1

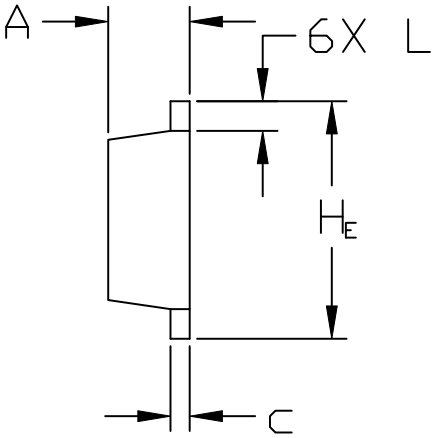
SOT−563, 6 LEAD
CASE 463A
ISSUE H

DATE 26 JAN 2021

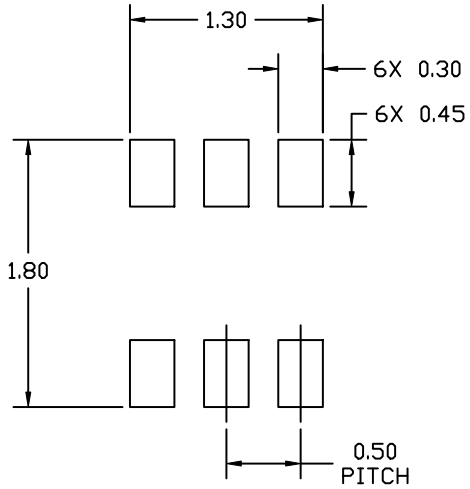
NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.



TOP VIEW



SIDE VIEW



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.

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		
L	0.10	0.20	0.30
H_E	1.50	1.60	1.70

SOT−563, 6 LEAD
CASE 463A
ISSUE H

DATE 26 JAN 2021

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

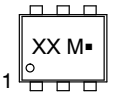
STYLE 8:
PIN 1. DRAIN
2. DRAIN
3. GATE
4. SOURCE
5. DRAIN
6. DRAIN

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 LEAD**		**PAGE 2 OF 2**

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