

# NSR15ADXV6T1, NSR15ADXV6T5

## Dual RF Schottky Diode

These diodes are designed for analog and digital applications, including DC based signal detection and mixing applications.

### Features

- Low Capacitance (<1.0 pF)
- Low  $V_F$  (390 mV Typical @ 1.0 mA)
- Low  $V_{FD}$  (1.0 mV Typical @ 1.0 mA)
- These are Pb-Free Devices

### Benefits

- Reduced Parasitic Losses
- Accurate Signal Measurement

### MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Peak Reverse Voltage	$V_R$	15	V
Forward Current	$I_F$	30	mA
Operating and Storage Temperature Range	$T_J, T_{stg}$	-65 to +150	°C
ESD Rating:	Class 1 per Human Body Model Class A per Machine Model		

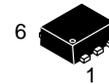
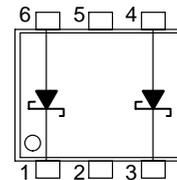
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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



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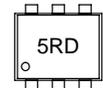
<http://onsemi.com>

## RF SCHOTTKY BARRIER DIODES 15 VOLTS, 30 mA



**SOT-563  
CASE 463A**

### MARKING DIAGRAM



5R = Specific Device Code  
D = Date Code

### ORDERING INFORMATION

Device	Package	Shipping†
NSR15ADXV6T1	SOT-563	4 mm pitch 4000 / Tape & Reel
NSR15ADXV6T5	SOT-563	2 mm pitch 8000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

# NSR15ADXV6T1, NSR15ADXV6T5

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	$V_{BR}$	15	20	-	V
Reverse Leakage ( $V_R = 1.0 \text{ V}$ )	$I_R$	-	2	50	nA
Forward Voltage ( $I_F = 1.0 \text{ mA}$ )	$V_{F1}$	-	390	415	mV
Forward Voltage ( $I_F = 10 \text{ mA}$ )	$V_{F2}$	-	530	680	mV
Delta $V_F$	$\Delta V_F$	-	1	15	mV
Capacitance ( $V_F = 0 \text{ V}$ , $f = 1.0 \text{ MHz}$ )	$C_T$	-	0.8	1	pF

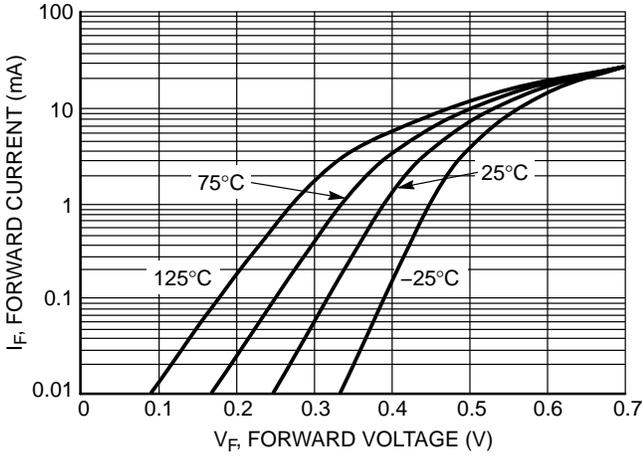


Figure 1. Forward Current versus Forward Voltage at Temperatures

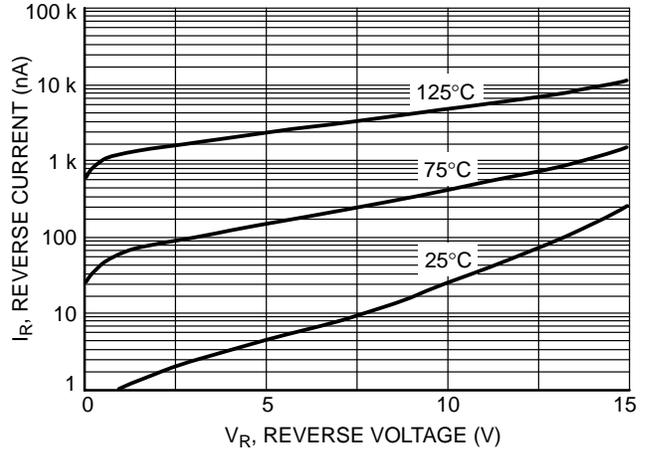


Figure 2. Reverse Current versus Reverse Voltage

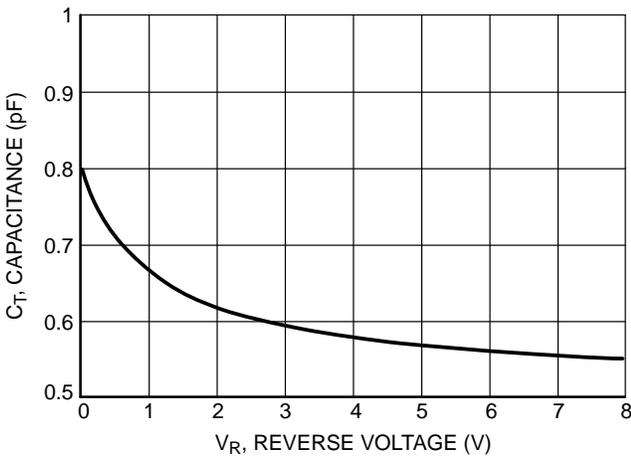


Figure 3. Total Capacitance versus Reverse Voltage

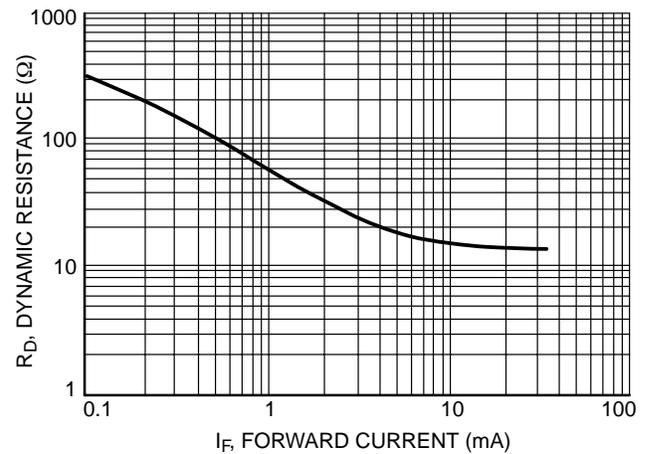


Figure 4. Dynamic Resistance versus Forward Current

# NSR15ADXV6T1, NSR15ADXV6T5

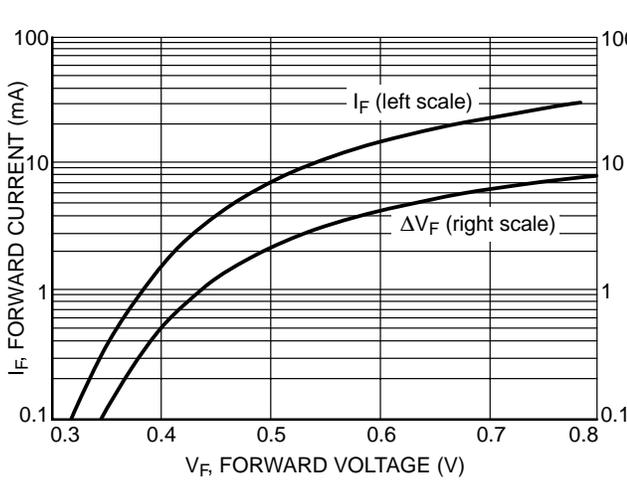


Figure 5. Typical  $V_F$  Match at Mixer Bias Levels

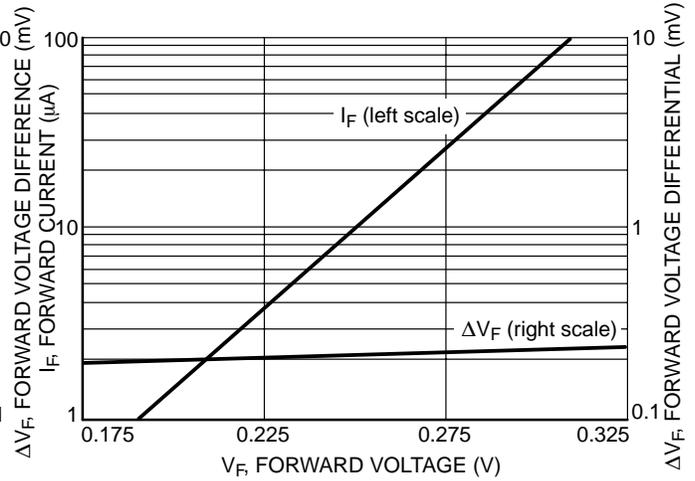


Figure 6. Typical  $V_F$  Match at Detector Bias Levels

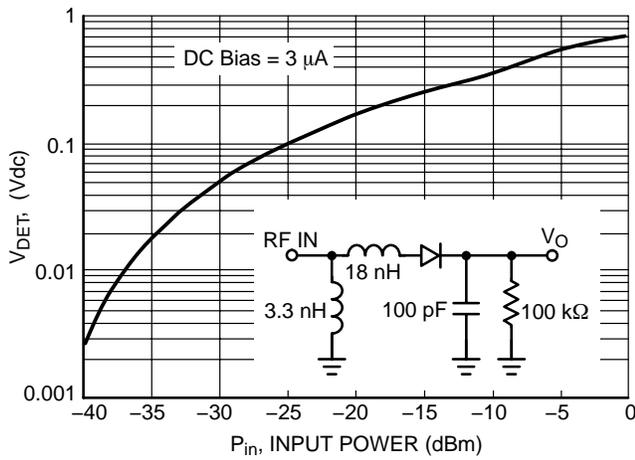


Figure 7. Typical Output Voltage versus Input Power, Small Signal Detector Operating at 850 MHz

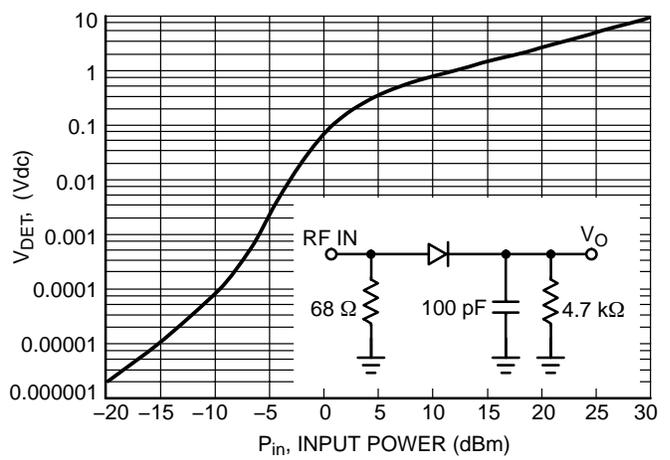


Figure 8. Typical Output Voltage versus Input Power, Large Signal Detector Operating at 915 MHz

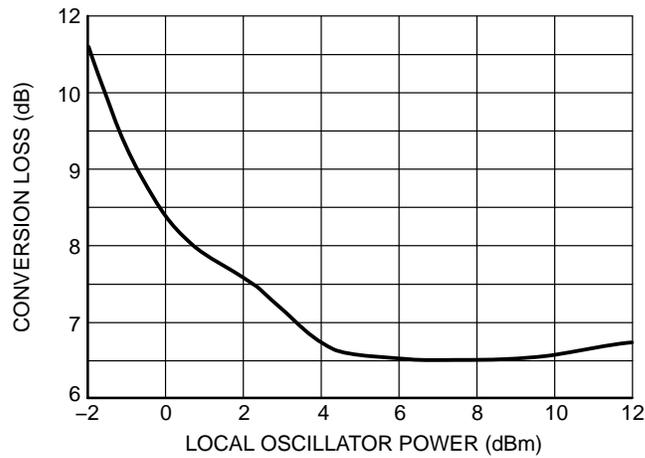
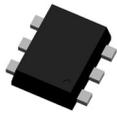


Figure 9. Typical Conversion Loss versus L.O. Drive, 2.0 GHz

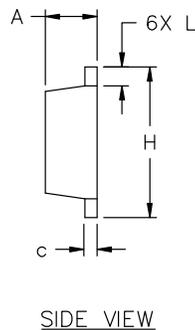
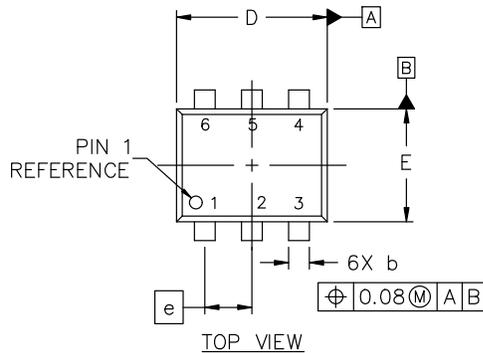


SOT-563-6 1.60x1.20x0.55, 0.50P  
CASE 463A  
ISSUE J

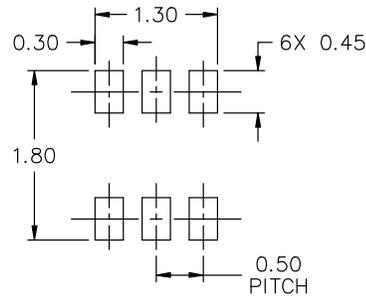
DATE 15 FEB 2024

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.



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



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

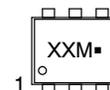
STYLE 10:  
PIN 1. CATHODE 1  
2. N/C  
3. CATHODE 2  
4. ANODE 2  
5. N/C  
6. ANODE 1

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

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, SOLDERM/D.

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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