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 $V_{F\Delta}$ (1.0 mV Typical @ 1.0 mA)
- These are Pb−Free Devices

Benefits

- Reduced Parasitic Losses
- Accurate Signal Measurement

MAXIMUM RATINGS

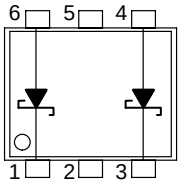
Rating	Symbol	Max	Unit
Peak Reverse Voltage	V_R	15	V
Forward Current	I_F	30	mA
Operating and Storage Temperature Range	T_J, T_{stg}	−65 to +150	°C
ESD Rating:	Class 1 per Human Body Model Class A per Machine Model		

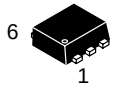
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

ON Semiconductor®

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.

ELECTRICAL CHARACTERISTICS

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

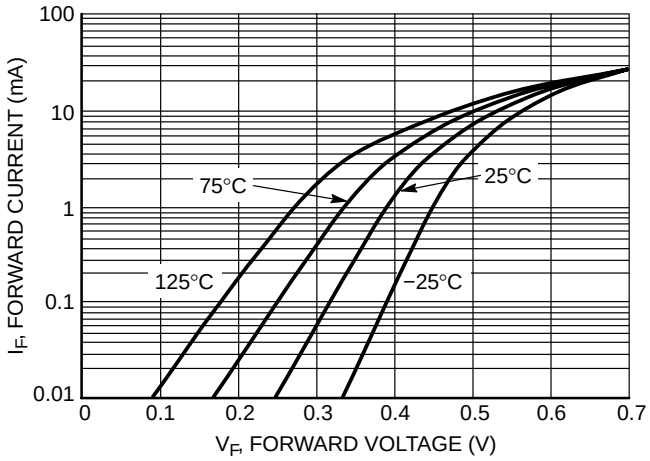


Figure 1. Forward Current versus Forward Voltage at Temperatures

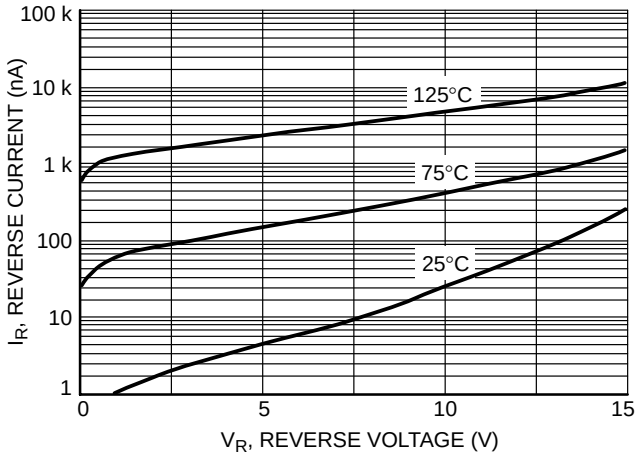


Figure 2. Reverse Current versus Reverse Voltage

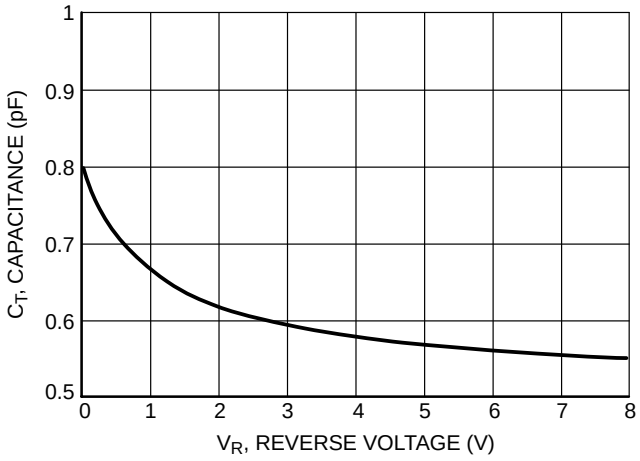


Figure 3. Total Capacitance versus Reverse Voltage

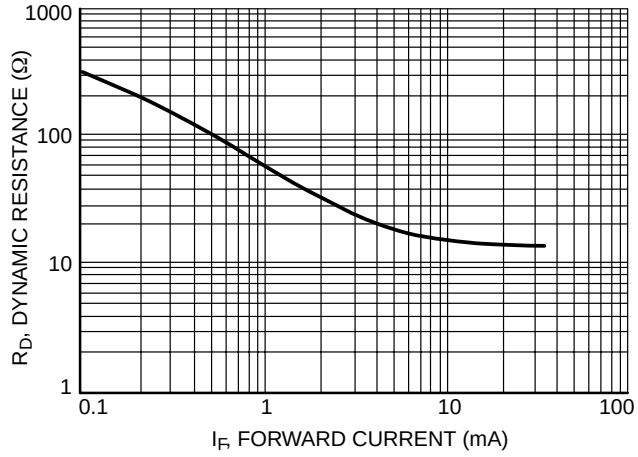


Figure 4. Dynamic Resistance versus Forward Current

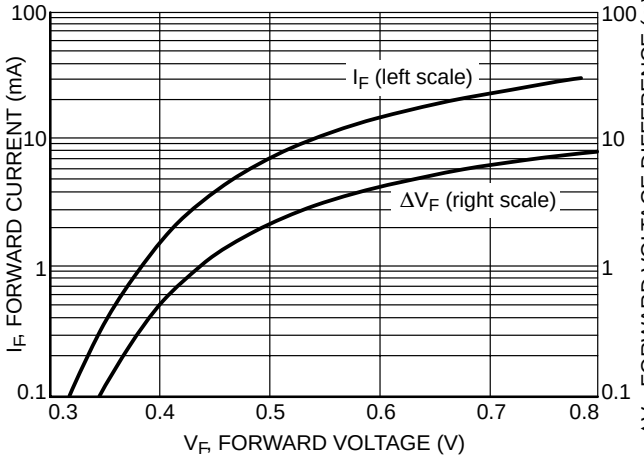


Figure 5. Typical V_F Match at Mixer Bias Levels

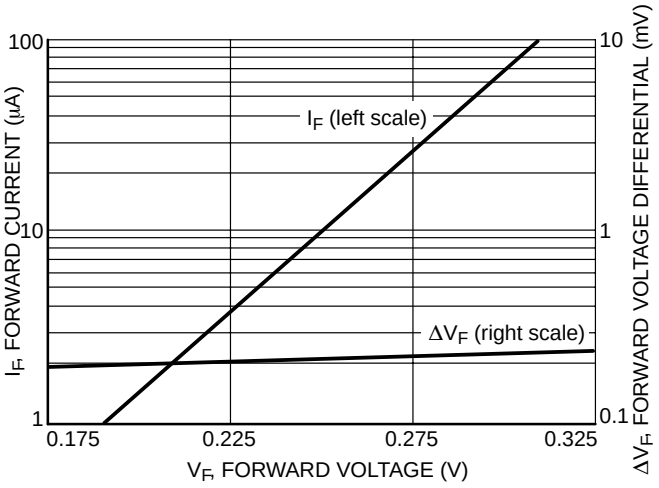


Figure 6. Typical V_F Match at Detector Bias Levels

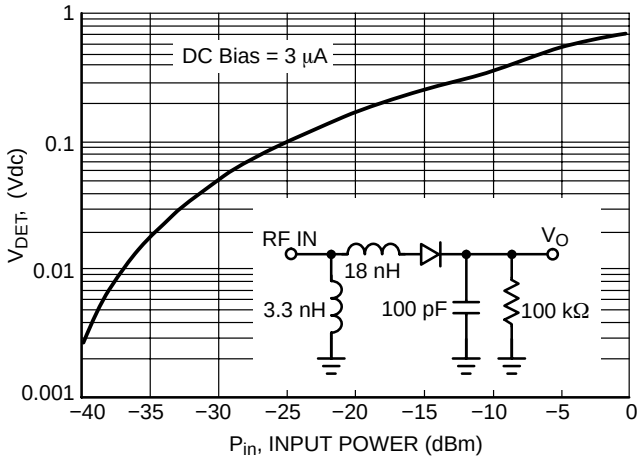


Figure 7. Typical Output Voltage versus Input Power, Small Signal Detector Operating at 850 MHz

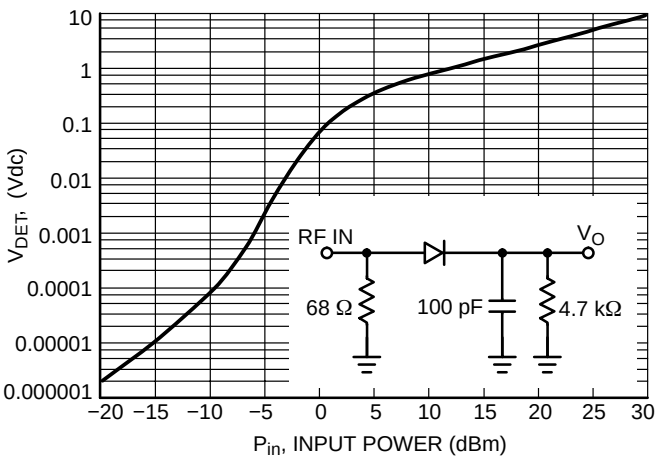


Figure 8. Typical Output Voltage versus Input Power, Large Signal Detector Operating at 915 MHz

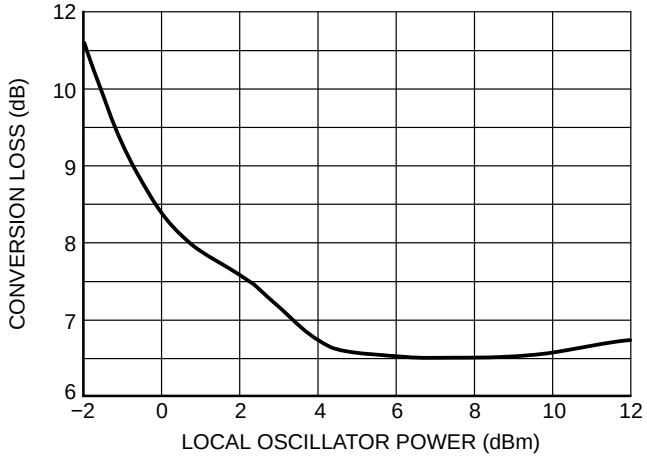
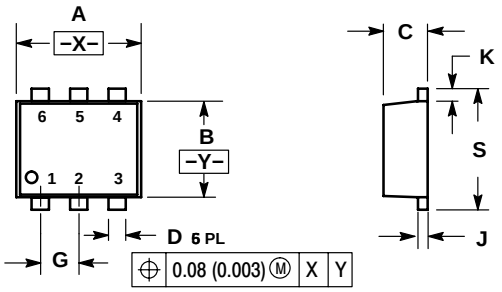


Figure 9. Typical Conversion Loss versus L.O. Drive, 2.0 GHz

PACKAGE DIMENSIONS

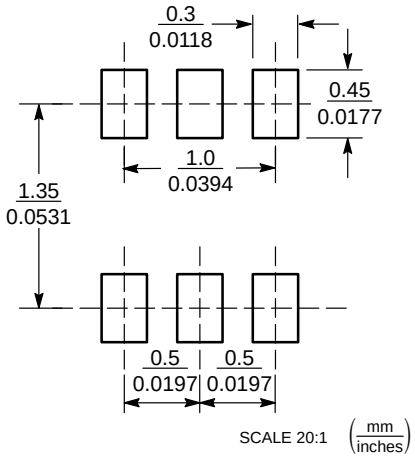
SOT−563−6
CASE 463A−01
ISSUE C



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	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC		0.020 BSC	
J	0.08	0.18	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1.70	0.059	0.067

SOLDERING FOOTPRINT*



SOT−563

*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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2−9−1 Kamimeguro, Meguro−ku, Tokyo, Japan 153−0051
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ON Semiconductor Website: http://onsemi.com

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

For additional information, please contact your local Sales Representative.

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