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Stocking Distributor

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ON Semiconductor
NSR15DW1T1

For any questions, you can email us directly:
sales@integrated-circuit.com

NSR15DW1

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 pF)
- Low V_F (390 mV typical @ 1 mA)
- Low $V_{F\Delta}$ (1 mV typical @ 1 mA)
- Pb−Free Package is Available

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			

THERMAL CHARACTERISTICS

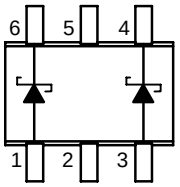
Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	500	°C/W

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.

ON Semiconductor®

http://onsemi.com

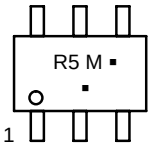
RF SCHOTTKY BARRIER DIODES 15 VOLTS, 30 mA




1

SC−88
CASE 419B
STYLE 21

MARKING DIAGRAM



R5 = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NSR15DW1T1	SC−88	3000/Tape & Reel
NSR15DW1T1G	SC−88 (Pb−Free)	3000/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.

NSR15DW1

ELECTRICAL CHARACTERISTICS

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

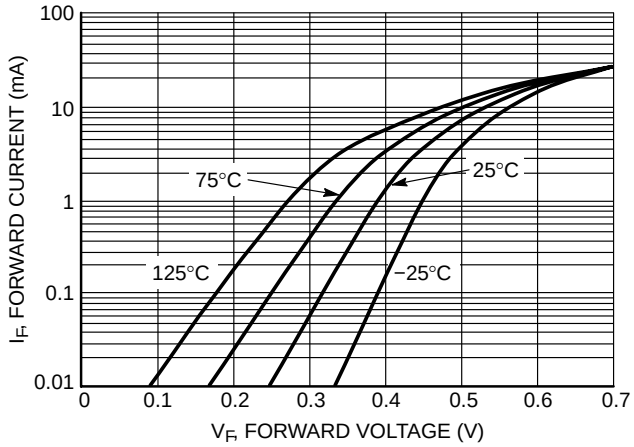


Figure 1. Forward Current versus Forward Voltage at Temperatures

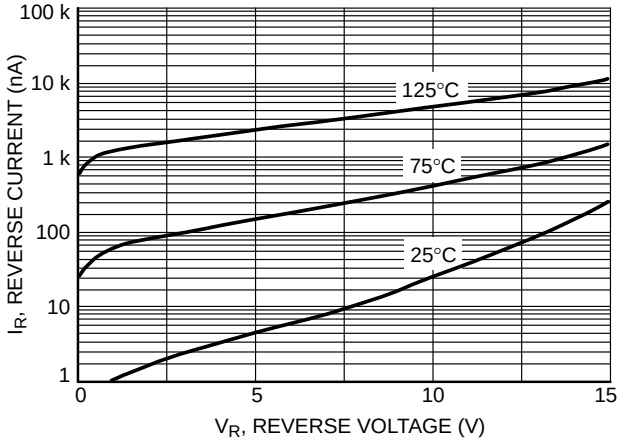


Figure 2. Reverse Current versus Reverse Voltage

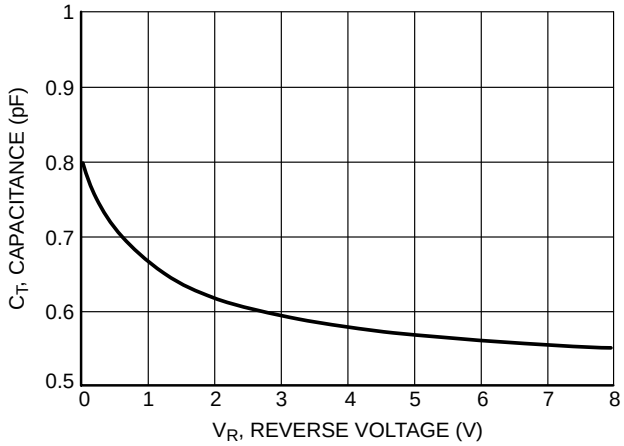


Figure 3. Total Capacitance versus Reverse Voltage

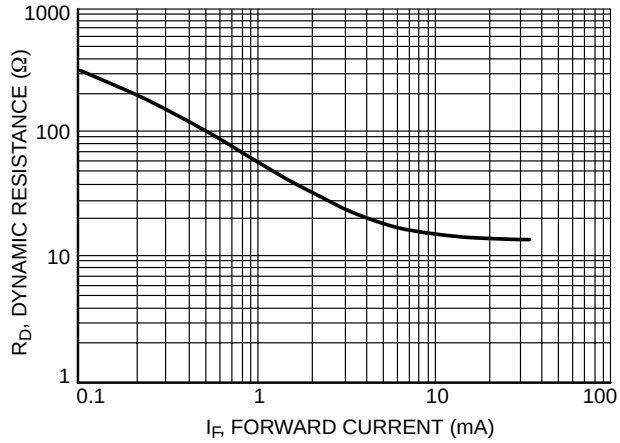


Figure 4. Dynamic Resistance versus Forward Current

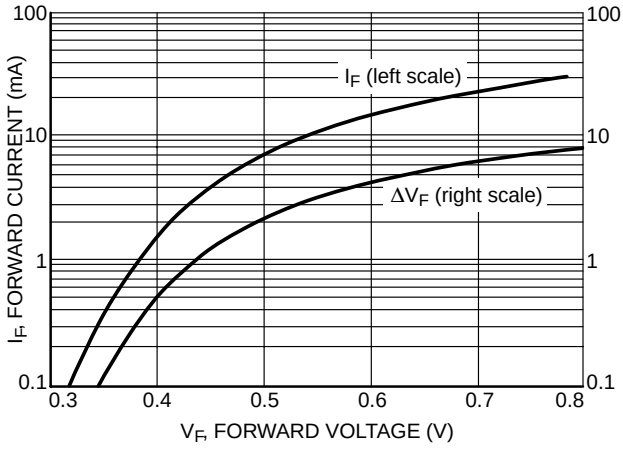


Figure 5. Typical V_F Match at Mixer Bias Levels

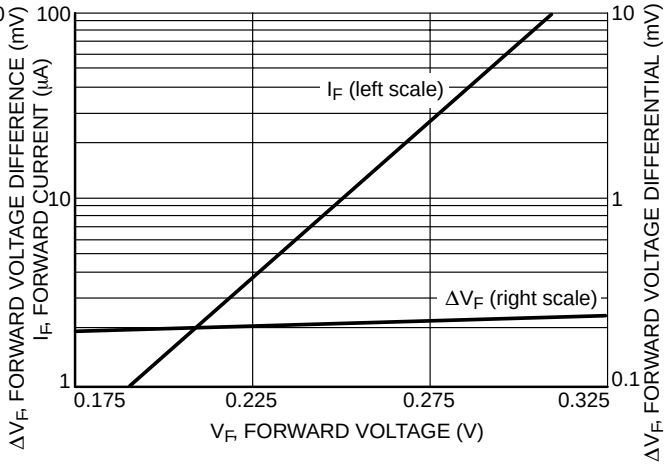


Figure 6. Typical V_F Match at Detector Bias Levels

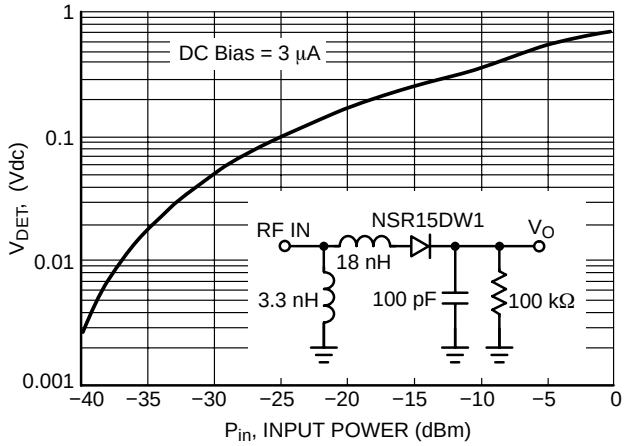


Figure 7. Typical Output Voltage versus Input Power, Small Signal Detector Operating at 850 MHz

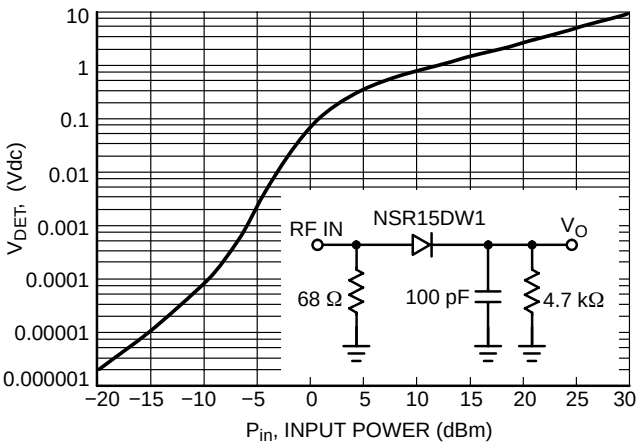


Figure 8. Typical Output Voltage versus Input Power, Large Signal Detector Operating at 915 MHz

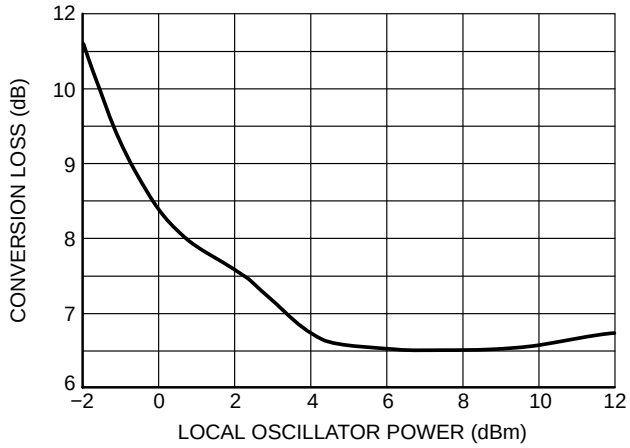
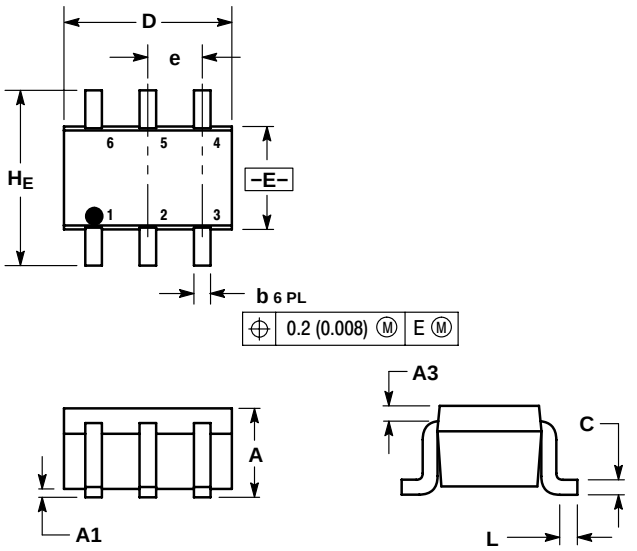


Figure 9. Typical Conversion Loss versus L.O. Drive, 2.0 GHz

NSR15DW1

PACKAGE DIMENSIONS

SC−88/SC70−6/SOT−363
CASE 419B−02
ISSUE W

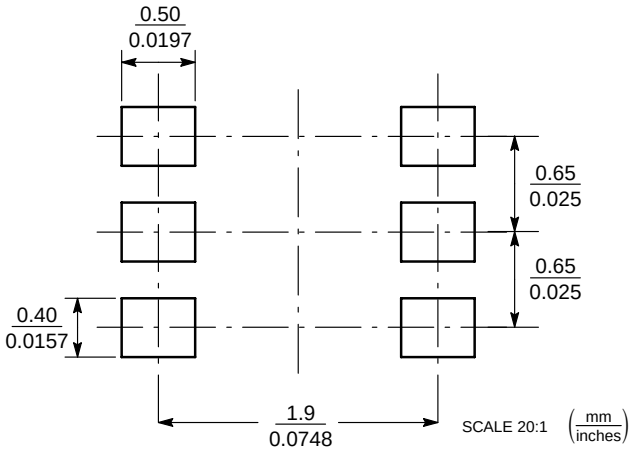


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B−01 OBSOLETE, NEW STANDARD 419B−02.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.95	1.10	0.031	0.037	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3		0.20 REF			0.008 REF	
b	0.10	0.21	0.30	0.004	0.008	0.012
C	0.10	0.14	0.25	0.004	0.005	0.010
D	1.80	2.00	2.20	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e		0.65 BSC			0.026 BSC	
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	2.00	2.10	2.20	0.078	0.082	0.086

STYLE 21:
PIN 1. ANODE 1
2. N/C
3. ANODE 2
4. CATHODE 2
5. N/C
6. CATHODE 1

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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NSR15DW1/D