

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_{FA} (1 mV typical @ 1 mA)

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

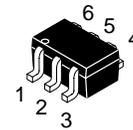
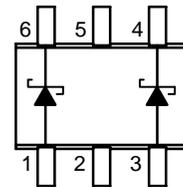
Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance – Junction to Ambient	$R_{\theta JA}$	500	°C/W



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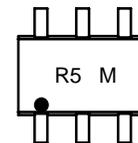
<http://onsemi.com>

RF SCHOTTKY BARRIER DIODES 15 VOLTS, 30 mA



SC-88
CASE 419B
STYLE 21

MARKING DIAGRAM



R5 = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping
NSR15DW1T1	SC-88	3000/Tape & Reel

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ELECTRICAL CHARACTERISTICS

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

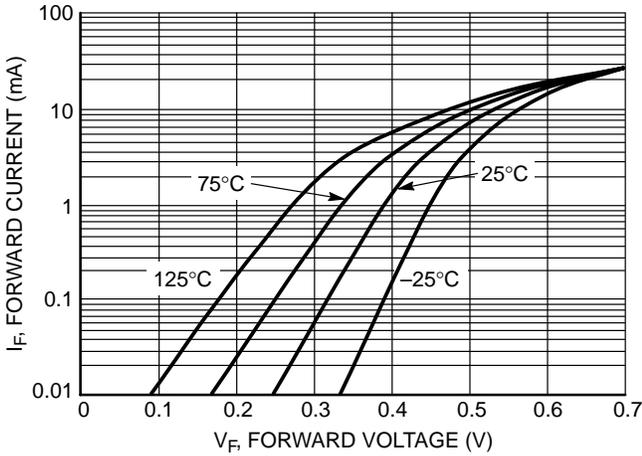


Figure 1. Forward Current versus Forward Voltage at Temperatures

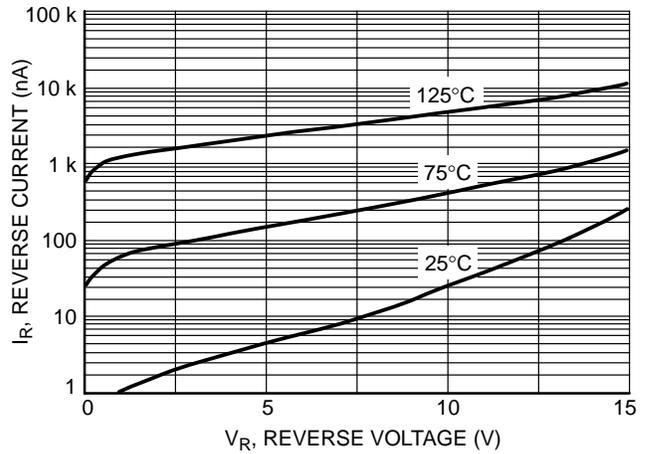


Figure 2. Reverse Current versus Reverse Voltage

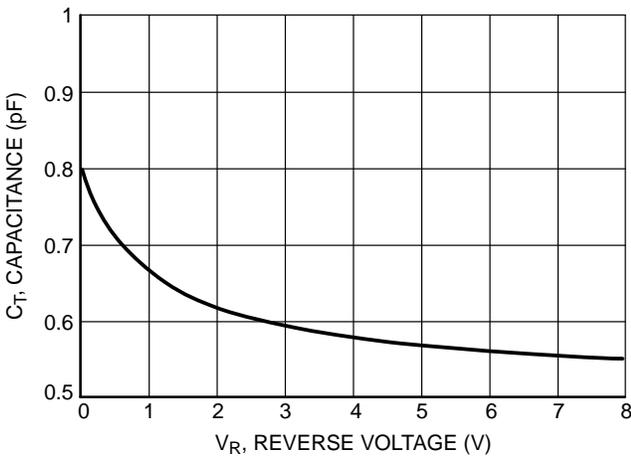


Figure 3. Total Capacitance versus Reverse Voltage

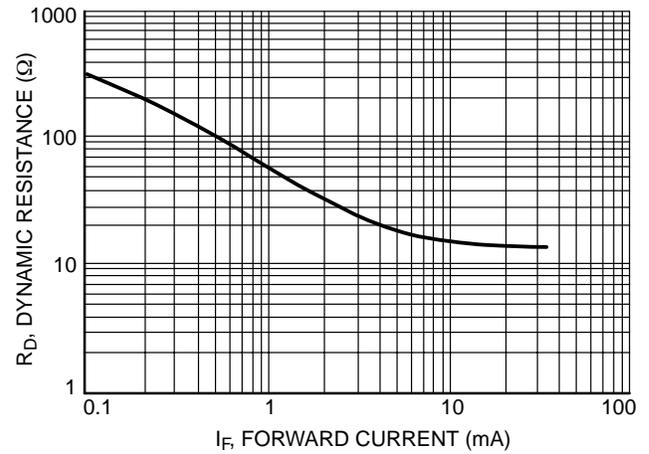


Figure 4. Dynamic Resistance versus Forward Current

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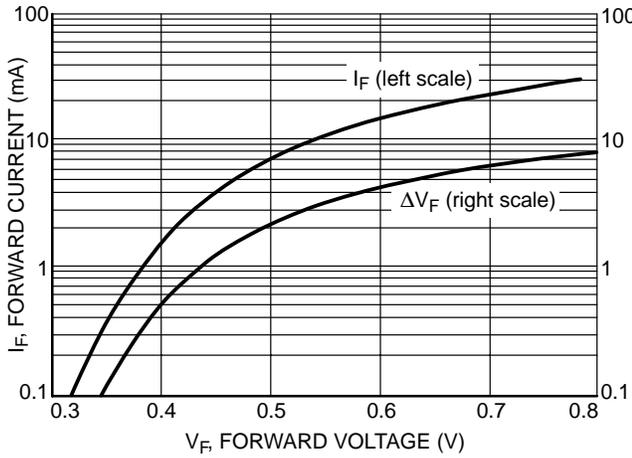


Figure 5. Typical V_F Match at Mixer Bias Levels

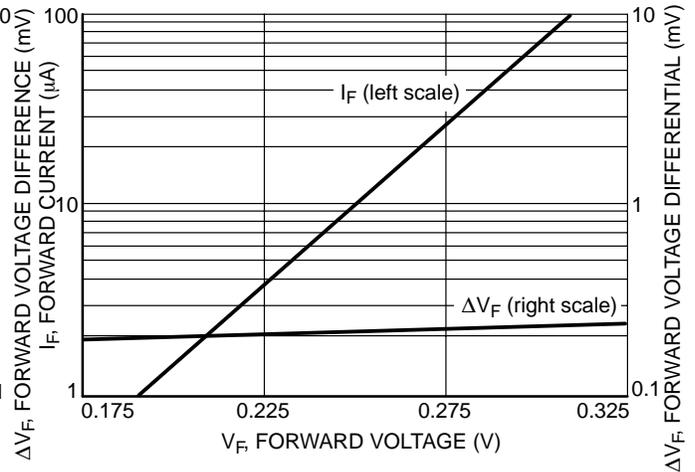


Figure 6. Typical V_F Match at Detector Bias Levels

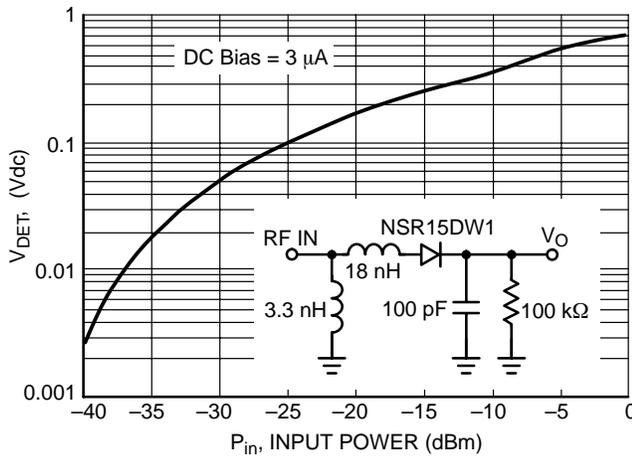


Figure 7. Typical Output Voltage versus Input Power, Small Signal Detector Operating at 850 MHz

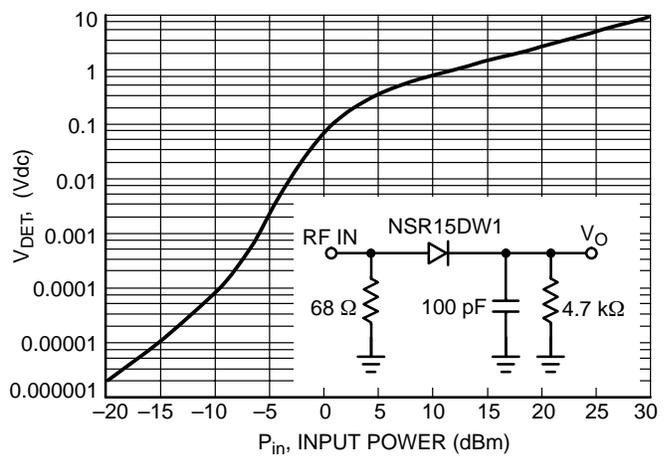


Figure 8. Typical Output Voltage versus Input Power, Large Signal Detector Operating at 915 MHz

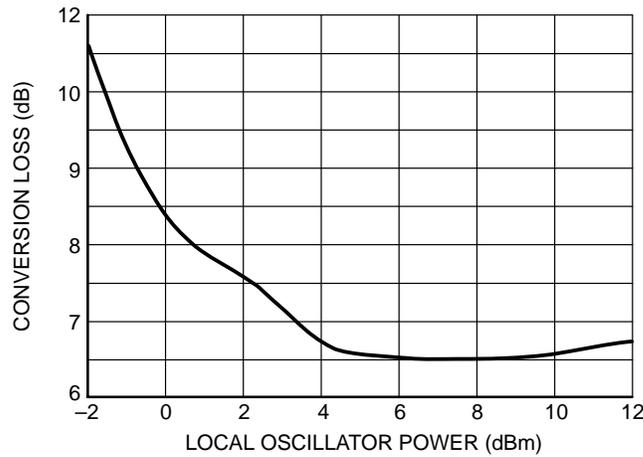
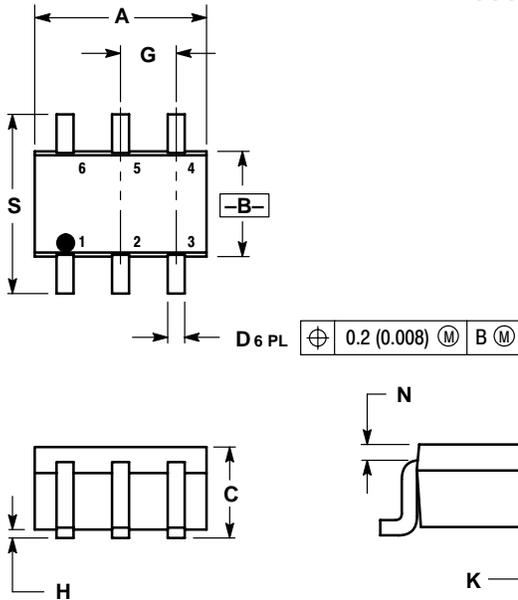


Figure 9. Typical Conversion Loss versus L.O. Drive, 2.0 GHz

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PACKAGE DIMENSIONS

SC-88 (SOT-363)
CASE 419B-02
ISSUE J



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

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