

NSR01F30NXT5G

Schottky Barrier Diode

These Schottky barrier diodes are optimized for low forward voltage drop and low leakage current. The DSN2 (Dual Silicon No-lead) package is a chip level package using solderable metal contacts under the package similar to DFN style packages. The DSN2 style package enables 100% utilization of the package area for active silicon, offering a significant performance per board area advantage compared to products in plastic molded packages. The low thermal resistance enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.

Features

- Very Low Forward Voltage Drop – 370 mV @ 10 mA
- Low Reverse Current – 7.0 μ A @ 10 V VR
- 100 mA of Continuous Forward Current
- ESD Rating – Human Body Model: Class 3B
– Machine Model: Class C
- Very High Switching Speed
- Low Capacitance – CT = 7 pF
- This is a Halide-Free Device
- This is a Pb-Free Device

Typical Applications

- LCD and Keypad Backlighting
- Camera Photo Flash
- Buck and Boost dc-dc Converters
- Reverse Voltage and Current Protection
- Clamping & Protection

Markets

- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Forward Current (DC)	I_F	100	mA
Forward Surge Current (60 Hz @ 1 cycle)	I_{FSM}	4.0	A
ESD Rating: Human Body Model Machine Model	ESD	>8.0 >400	kV V

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>

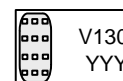
30 V SCHOTTKY BARRIER DIODE



DSN2
(0201)
CASE 152AA

MARKING DIAGRAM

PIN 1



V130 = Specific Device Code
YYY = Year Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR01F30NXT5G	DSN2 (Pb-Free)	5000 / 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.

NSR01F30NXT5G

THEMAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Thermal Resistance Junction-to-Ambient (Note 1) Total Power Dissipation @ $T_A = 25^\circ\text{C}$	$R_{\theta JA}$ P_D			400 312	$^\circ\text{C}/\text{W}$ mW
Thermal Resistance Junction-to-Ambient (Note 2) Total Power Dissipation @ $T_A = 25^\circ\text{C}$	$R_{\theta JA}$ P_D			170 735	$^\circ\text{C}/\text{W}$ mW
Storage Temperature Range	T_{stg}			-40 to +125	$^\circ\text{C}$
Junction Temperature	T_J			+125	$^\circ\text{C}$

1. Mounted onto a 4 in square FR-4 board 10 mm sq. 1 oz. Cu 0.06" thick single sided. Operating to steady state.
2. Mounted onto a 4 in square FR-4 board 1 in sq. 1 oz. Cu 0.06" thick single sided. Operating to steady state.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage ($V_R = 10\text{ V}$) ($V_R = 30\text{ V}$)	I_R			7.0 50	μA
Forward Voltage ($I_F = 10\text{ mA}$) ($I_F = 100\text{ mA}$)	V_F			0.37 0.50	V
Total Capacitance ($V_R = 5.0\text{ V}$, $f = 1\text{ MHz}$)	C_T		7.0		pF

NSR01F30NXT5G

TYPICAL CHARACTERISTICS

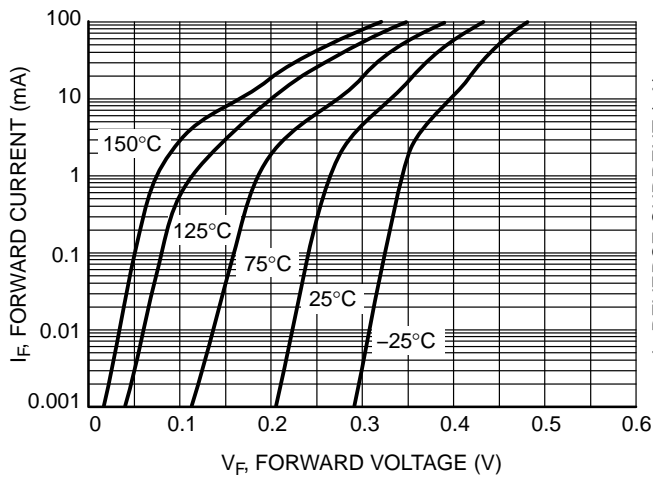


Figure 1. Forward Voltage

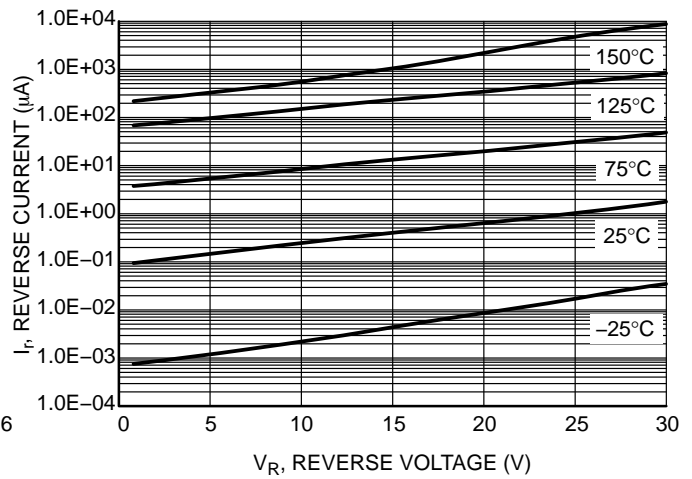


Figure 2. Leakage Current

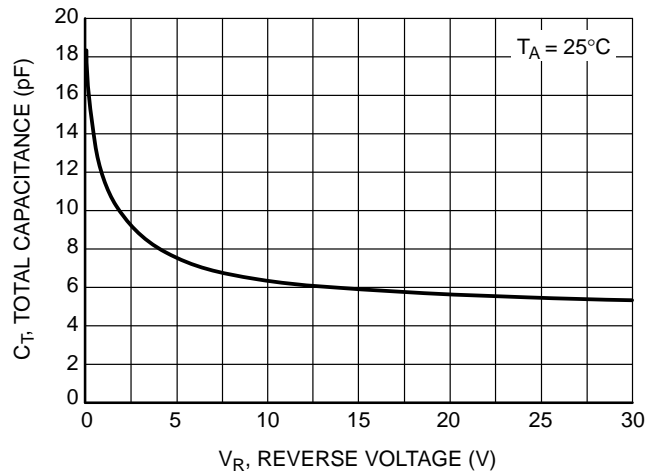
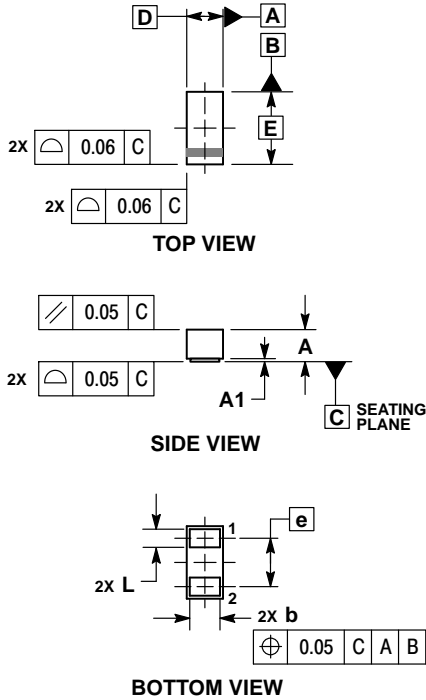


Figure 3. Total Capacitance

NSR01F30NXT5G

PACKAGE DIMENSIONS

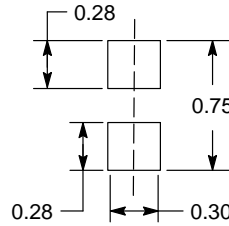
DSN2, 0.6x0.3, 0.4P, (0201)
CASE 152AA
ISSUE A



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: MILLIMETERS.

MILLIMETERS		
DIM	MIN	MAX
A	0.24	0.30
A1	0.00	0.01
b	0.20	0.22
D	0.30	BSC
E	0.60	BSC
e	0.40	BSC
L	0.10	0.12

MOUNTING FOOTPRINT*



DIMENSIONS: MILLIMETERS

See Application Note AND8398/D for more mounting details
*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of SCILLC's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050

ON Semiconductor Website: www.onsemi.com
Order Literature: <http://www.onsemi.com/orderlit>
For additional information, please contact your local Sales Representative

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ON Semiconductor:](#)

[NSR01F30NXT5G](#)