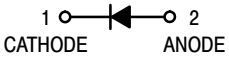
Schottky Barrier Diode

NSR02F30NXT5G

30 V 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 DSN 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 μA @ 10 V VR
- 200 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
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

Typical Applications

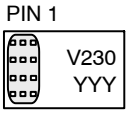
- LCD and Keypad Backlighting
- Camera Photo Flash
- Buck and Boost dc−dc Converters
- Reverse Voltage and Current Protection
- Clamping & Protection

Markets

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

DSN2
(0201)
CASE 152AA

MARKING DIAGRAM



V230 = Specific Device Code
YYY = Year Code

Q = Specific Device Code
M = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR02F30NXT5G	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.

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Reverse Voltage		V_R	30	V
Forward Current (DC)		I_F	200	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 those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage (V_R = 10 V) (V_R = 30 V)	I_R			 7.0 50	µA
Forward Voltage (I_F = 10 mA) (I_F = 200 mA)	V_F			 0.37 0.55	V
Total Capacitance (V_R = 5.0 V, f = 1 MHz)	CT		7.0		pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

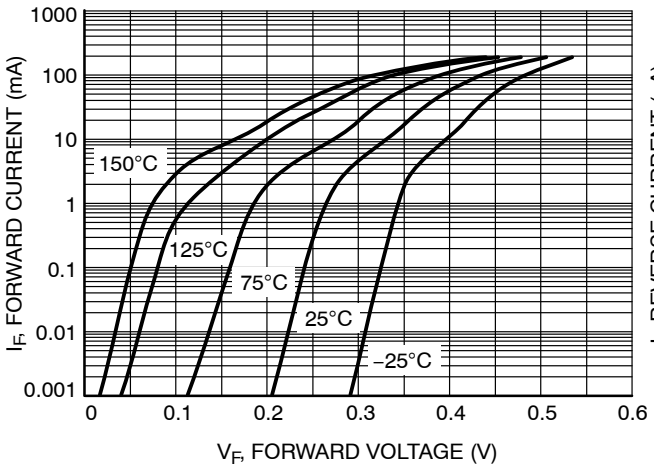


Figure 1. Forward Voltage

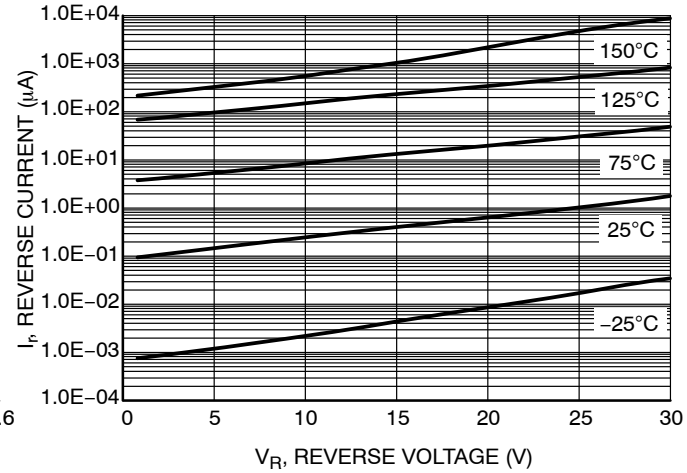


Figure 2. Leakage Current

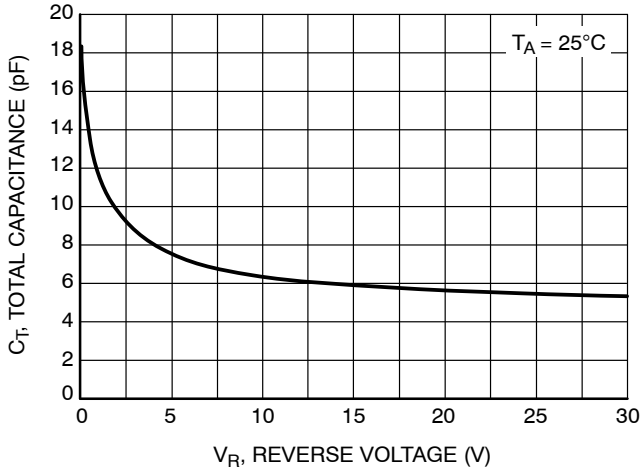


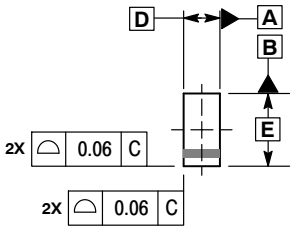
Figure 3. Total Capacitance

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

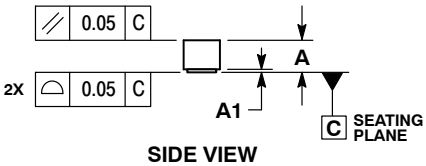
DSN2, 0.6x0.3, 0.4P, (0201)
CASE 152AA
ISSUE B

DATE 30 APR 2017

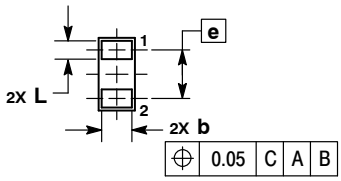
SCALE 8:1



TOP VIEW



SIDE VIEW

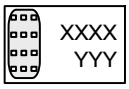


BOTTOM VIEW

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

GENERIC MARKING DIAGRAM1*

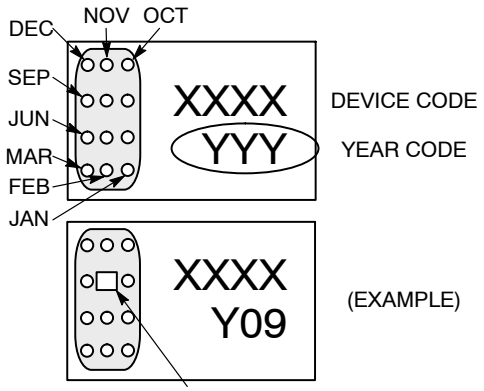


GENERIC MARKING DIAGRAM2*

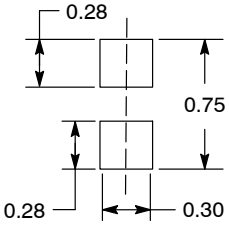
XXXX = Specific Device Code
YYY = Year Code
X = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G”, may or not be present. Some products may not follow the Generic Marking.

CATHODE BAND MONTH CODING



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 **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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DESCRIPTION:	**DSN2, 0.6X0.3, 0.4P, (0201)**	**PAGE 1 OF 1**

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