

NSR01L30NXT5G

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 – 400 mV @ 10 mA
- Low Reverse Current – 0.2 μ A @ 10 V VR
- 100 mA of Continuous Forward Current
- ESD Rating – Human Body Model: Class 3B
– Machine Model: Class C
- Power Dissipation of 312 mW with Minimum Trace
- 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 | ESD | >8.0 | kV |
| Machine Model | | >400 | 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.



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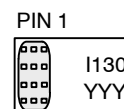
<http://onsemi.com>

30 V SCHOTTKY BARRIER DIODE



DSN2
(0201)
CASE 152AA

MARKING DIAGRAM



I130 = Specific Device Code
YYY = Year Code

ORDERING INFORMATION

| Device | Package | Shipping† |
|---------------|-------------------|--------------------|
| NSR01L30NXT5G | 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.

NSR01L30NXT5G

THERMAL 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 | | | +150 | $^\circ\text{C}$ |

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 | | | 0.2 3.0 | μA |
| Forward Voltage ($I_F = 10\text{ mA}$) ($I_F = 100\text{ mA}$) | V_F | | | 0.40 0.53 | V |
| Total Capacitance ($V_R = 5.0\text{ V}$, $f = 1\text{ MHz}$) | CT | | 7.0 | | pF |

NSR01L30NXT5G

TYPICAL CHARACTERISTICS

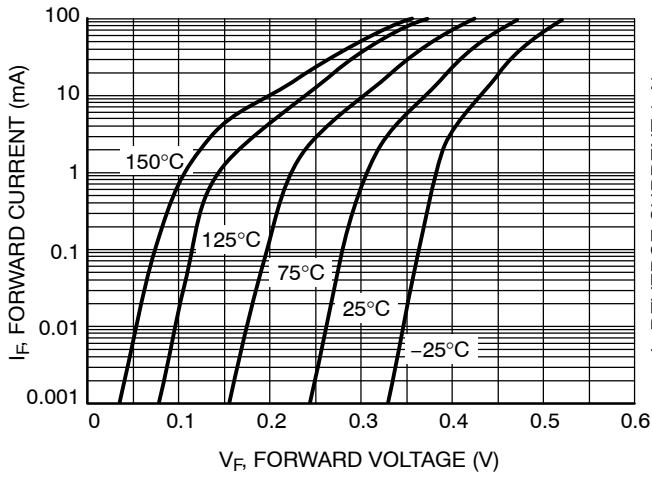


Figure 1. Forward Voltage

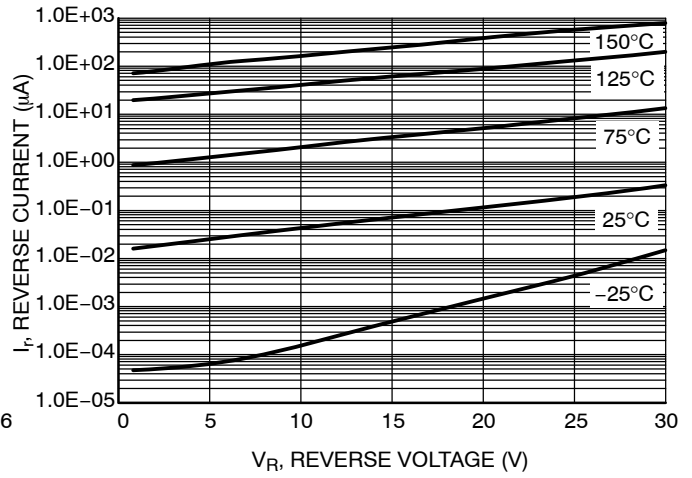


Figure 2. Leakage Current

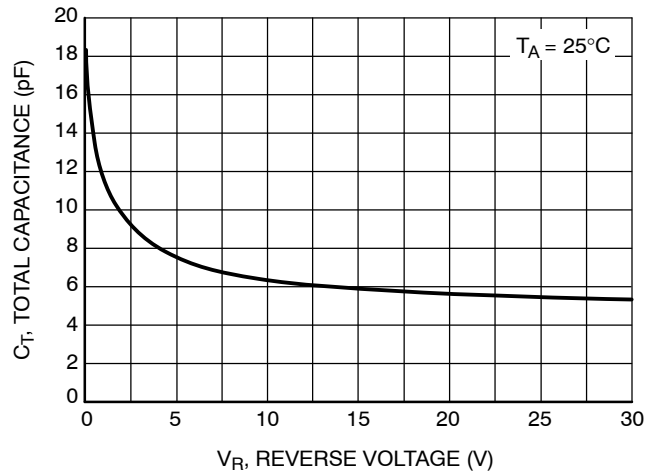


Figure 3. Total Capacitance

MECHANICAL CASE OUTLINE

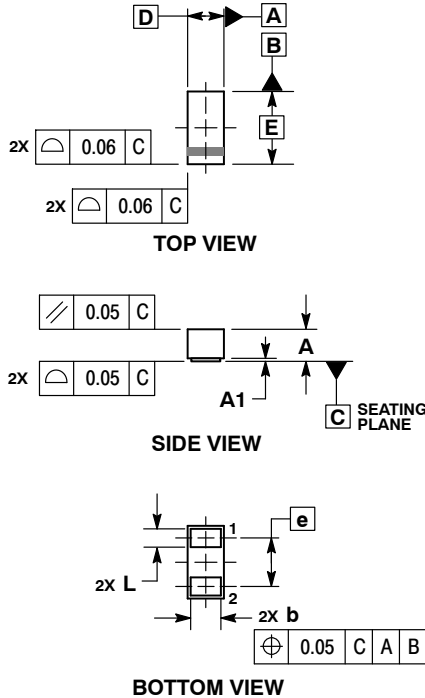
PACKAGE DIMENSIONS



SCALE 8:1

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

DATE 30 APR 2017

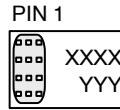


NOTES:

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

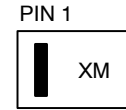
| MILLIMETERS | | |
|-------------|----------|------|
| DIM | MIN | MAX |
| A | 0.24 | 0.30 |
| A1 | 0.00 | 0.01 |
| b | 0.20 | 0.22 |
| D | 0.30 BSC | |
| E | 0.60 BSC | |
| e | 0.40 BSC | |
| L | 0.10 | 0.12 |

GENERIC MARKING DIAGRAM1*



XXXX = Specific Device Code
YYY = Year Code

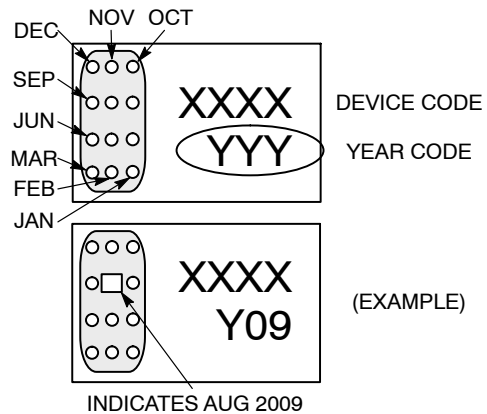
GENERIC MARKING DIAGRAM2*



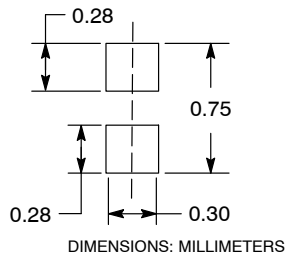
X = Specific Device Code
M = Date Code

*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*



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

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