Schottky Barrier Diode

These Schottky barrier diodes are optimized for low forward voltage drop and low leakage current.

Features

- Very Low Forward Voltage Drop 350 mV @ 10 mA
- Low Reverse Current 5 μA @ 10 V
- 100 mA of Continuous Forward Current
- ESD Rating Human Body Model: Class 3B
 - Machine Model: Class C
- 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

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} | 2.0 | А |
| ESD Rating: | Human Body Model Machine Model | ESD | >8.0 >400 | kV V |

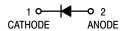
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



ON Semiconductor®

http://onsemi.com

30 V SCHOTTKY BARRIER DIODE





X3DFN2 CASE 152AF MARKING DIAGRAM

PIN 1 M E

F = Specific Device Code (Rotated 180°) M = Date Code

ORDERING INFORMATION

| Device | Package | Shipping† |
|---------------|---------------------|------------------------|
| NSR01F30MXT5G | X3DFN2 (Pb-Free) | 15000 / 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.

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Min | Тур | Max | Unit |
|---|------------------------------------|-----|-----|-------------|------------|
| Thermal Resistance Junction-to-Ambient (Note 1) Total Power Dissipation @ T _A = 25°C | R _{θJA} P _D | | | 695 180 | °C/W mW |
| Storage Temperature Range | T _{stg} | | | -40 to +125 | °C |
| Junction Temperature | TJ | | | +125 | °C |

^{1.} Mounted onto a 4 in square FR-4 board 100 mm sq. 2 oz. Cu 0.06" thick single-sided. Operating to steady state.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Тур | Max | Unit |
|--|----------------|-----|------|--------------|------|
| Reverse Leakage $(V_R = 10 \text{ V})$ $(V_R = 30 \text{ V})$ | I _R | | | 5 50 | μΑ |
| Forward Voltage (I _F = 10 mA) (I _F = 100 mA) | V _F | | | 0.35 0.60 | V |
| Total Capacitance (V _R = 10 V, f = 1 MHz) | СТ | | 0.90 | | 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

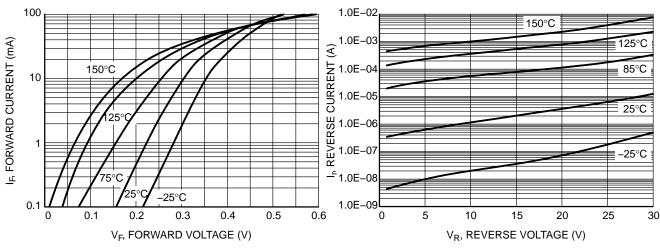


Figure 1. Forward Voltage

Figure 2. Leakage Current

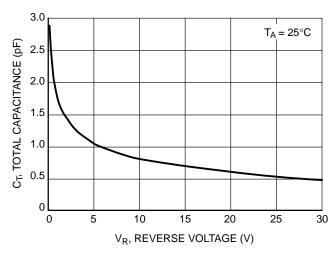
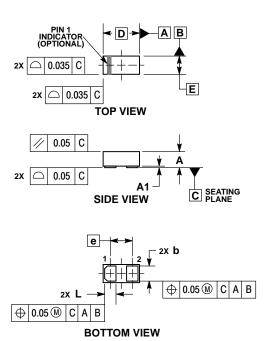


Figure 3. Total Capacitance

PACKAGE DIMENSIONS

X3DFN2, 0.62x0.32, 0.355P, (0201) CASE 152AF **ISSUE O**

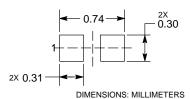


NOTES:

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

| | MILLIMETERS | | | |
|-----|-------------|------|--|--|
| DIM | MIN | MAX | | |
| Α | 0.25 | 0.33 | | |
| A1 | | 0.05 | | |
| b | 0.22 | 0.28 | | |
| D | 0.62 BSC | | | |
| Е | 0.32 BSC | | | |
| е | 0.355 BSC | | | |
| | 0.17 | 0.23 | | |

RECOMMENDED 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 ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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