

# NSR01F30MX

## 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  $\mu$ A @ 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<br>(60 Hz @ 1 cycle)    | $I_{FSM}$ | 2.0          | A       |
| ESD Rating: Human Body Model<br>Machine Model | ESD       | >8.0<br>>400 | kV<br>V |

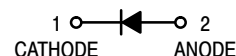
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



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## 30 V SCHOTTKY BARRIER DIODE



**X3DFN2  
CASE 152AF**

### MARKING DIAGRAM

PIN 1



F = Specific Device Code  
(Rotated 180°)

M = Date Code

### ORDERING INFORMATION

| Device        | Package             | Shipping†              |
|---------------|---------------------|------------------------|
| NSR01F30MXT5G | X3DFN2<br>(Pb-Free) | 10000 /<br>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.

# NSR01F30MX

## THERMAL CHARACTERISTICS

| Characteristic                                                                                           | Symbol                   | Min | Typ | Max        | Unit                              |
|----------------------------------------------------------------------------------------------------------|--------------------------|-----|-----|------------|-----------------------------------|
| Thermal Resistance<br>Junction-to-Ambient (Note 1)<br>Total Power Dissipation @ $T_A = 25^\circ\text{C}$ | $R_{\theta JA}$<br>$P_D$ |     |     | 695<br>180 | $^\circ\text{C/W}$<br>$\text{mW}$ |
| Storage Temperature Range                                                                                | $T_{stg}$                | -40 |     | +125       | $^\circ\text{C}$                  |
| Junction Temperature Range                                                                               | $T_J$                    | -40 |     | +125       | $^\circ\text{C}$                  |

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

| Characteristic                                                           | Symbol | Min | Typ  | Max          | Unit          |
|--------------------------------------------------------------------------|--------|-----|------|--------------|---------------|
| Reverse Leakage<br>( $V_R = 10\text{ V}$ )<br>( $V_R = 30\text{ V}$ )    | $I_R$  |     |      | 5<br>50      | $\mu\text{A}$ |
| Forward Voltage<br>( $I_F = 10\text{ mA}$ )<br>( $I_F = 100\text{ mA}$ ) | $V_F$  |     |      | 0.35<br>0.60 | V             |
| Total Capacitance<br>( $V_R = 10\text{ V}$ , $f = 1\text{ MHz}$ )        | $C_T$  |     | 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.

# NSR01F30MX

## TYPICAL CHARACTERISTICS

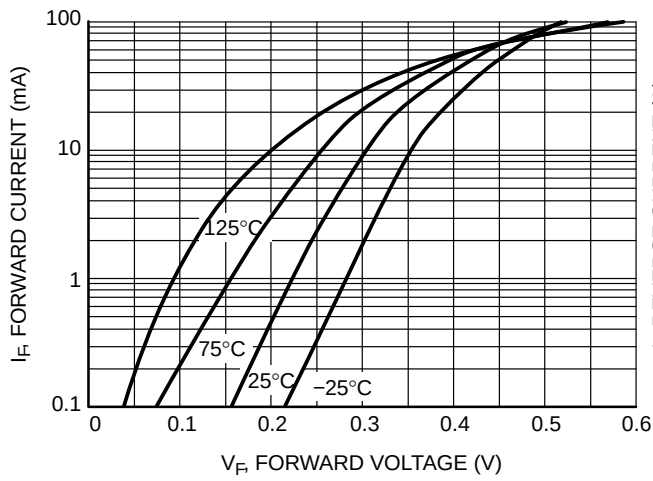


Figure 1. Forward Voltage

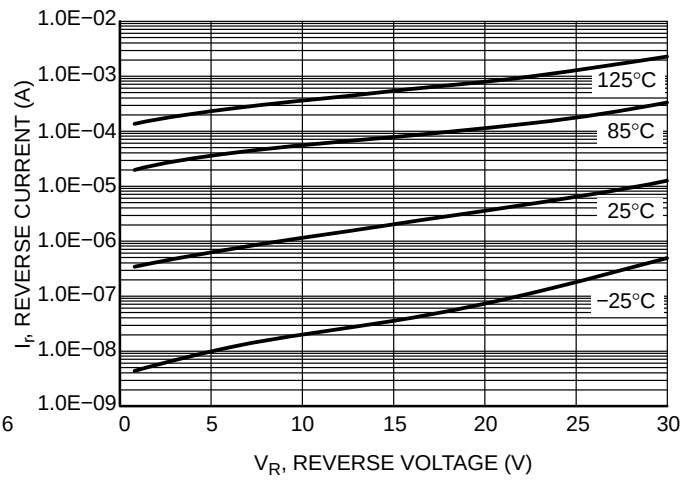


Figure 2. Leakage Current

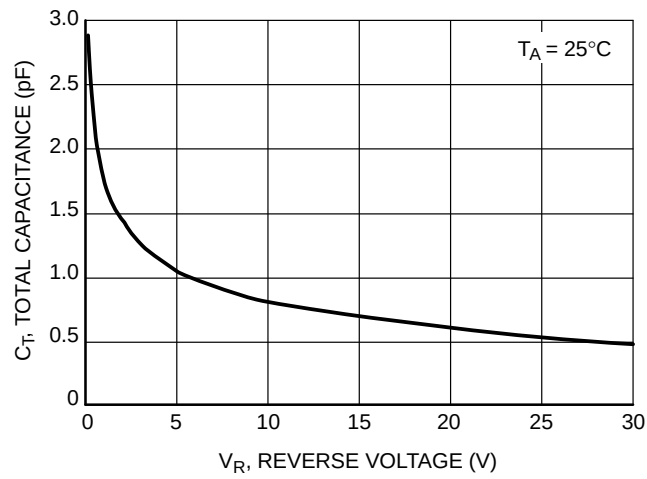
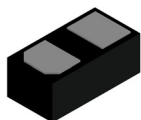
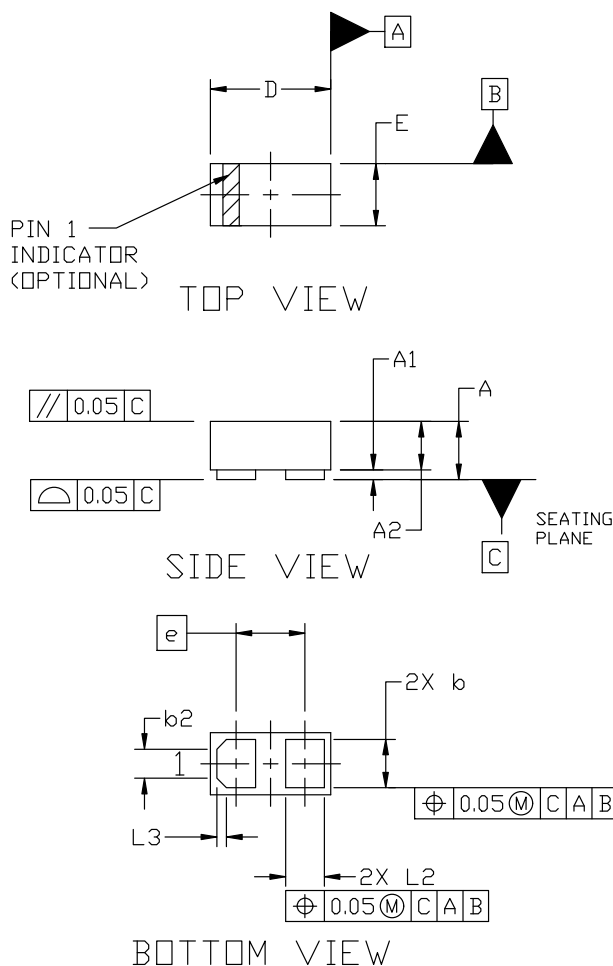


Figure 3. Total Capacitance

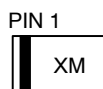


**X3DFN2 0.62x0.32x0.24, 0.35P**  
CASE 152AF  
ISSUE C

DATE 08 AUG 2023



### GENERIC MARKING DIAGRAM\*



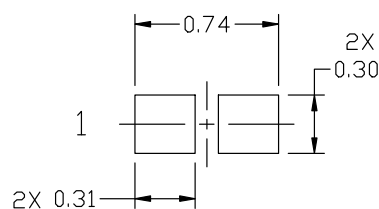
X = Specific Device Code  
M = Date Code

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

NOTES:

1. DIMENSIONING AND TOLERANCING PER  
ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. 0201

|     | MILLIMETERS |      |      |
|-----|-------------|------|------|
| DIM | MIN.        | NOM. | MAX. |
| A   | 0.25        | 0.29 | 0.33 |
| A1  | 0.00        | ---  | 0.05 |
| A2  | 0.14        | 0.24 | 0.34 |
| b   | 0.22        | 0.25 | 0.28 |
| b2  | 0.150 REF   |      |      |
| D   | 0.58        | 0.62 | 0.66 |
| E   | 0.28        | 0.32 | 0.36 |
| e   | 0.355 BSC   |      |      |
| L2  | 0.17        | 0.20 | 0.23 |
| L3  | 0.050 REF   |      |      |



RECOMMENDED  
MOUNTING FOOTPRINT\*

- \* For additional information on our Pb-Free strategy and soldering details, please download the QFN Semiconductor Soldering and Mounting Techniques Reference Manual, [SOLDDERM/D](#).

|                         |                                     |                                                                                                                                                                                     |
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| <b>DESCRIPTION:</b>     | <b>X3DFN2 0.62x0.32x0.24, 0.35P</b> | <b>PAGE 1 OF 1</b>                                                                                                                                                                  |

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