

# NSR01L30MX

## 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 @ 1 mA
- Low Reverse Current – 0.2  $\mu$ A @ 10 V
- 100 mA of Continuous Forward Current
- ESD Rating – Human Body Model: Class 3B  
– Machine Model: Class C
- 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)	$I_{FSM}$	2.0	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.



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## 30 V SCHOTTKY BARRIER DIODE



X3DFN2  
CASE 152AF

### MARKING DIAGRAM



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

### ORDERING INFORMATION

Device	Package	Shipping†
NSR01L30MXT5G	X3DFN2 (Pb-Free)	10000 / 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.

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## THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Thermal Resistance Junction-to-Ambient (Note 1) Total Power Dissipation @ $T_A = 25^\circ\text{C}$	$R_{\theta JA}$ $P_D$			695 180	$^\circ\text{C}/\text{W}$ $\text{mW}$
Storage Temperature Range	$T_{stg}$			-55 to +150	$^\circ\text{C}$
Junction Temperature	$T_J$			+150	$^\circ\text{C}$

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 ( $V_R = 10\text{ V}$ ) ( $V_R = 30\text{ V}$ )	$I_R$			0.2 0.5	$\mu\text{A}$
Forward Voltage ( $I_F = 1\text{ mA}$ ) ( $I_F = 10\text{ mA}$ )	$V_F$			0.35 0.46	V
Total Capacitance ( $V_R = 5.0\text{ V}$ , $f = 1\text{ MHz}$ )	CT		0.8		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.

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## TYPICAL CHARACTERISTICS

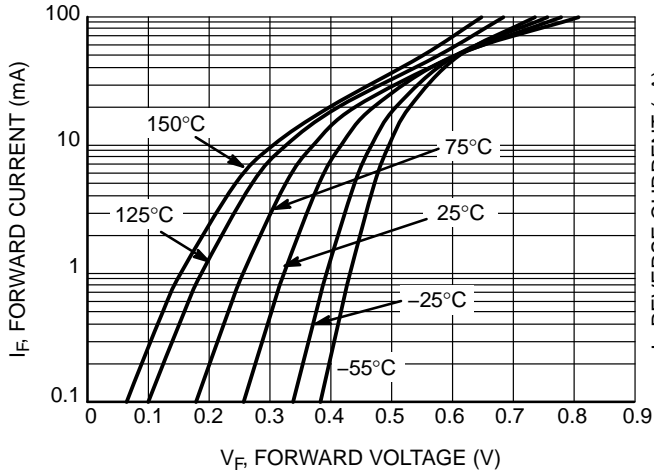


Figure 1. Forward Voltage

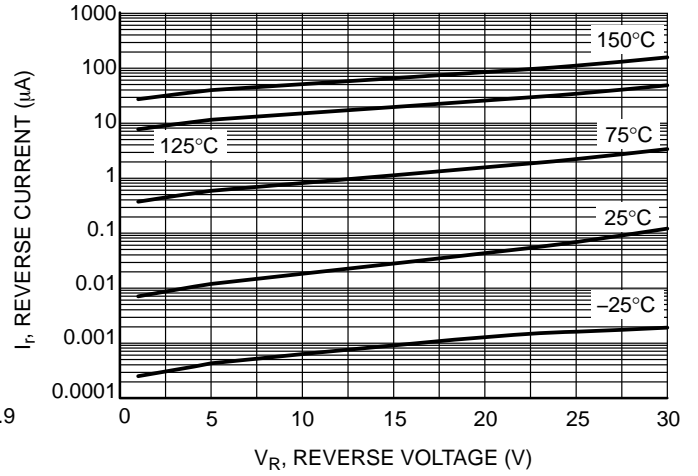


Figure 2. Leakage Current

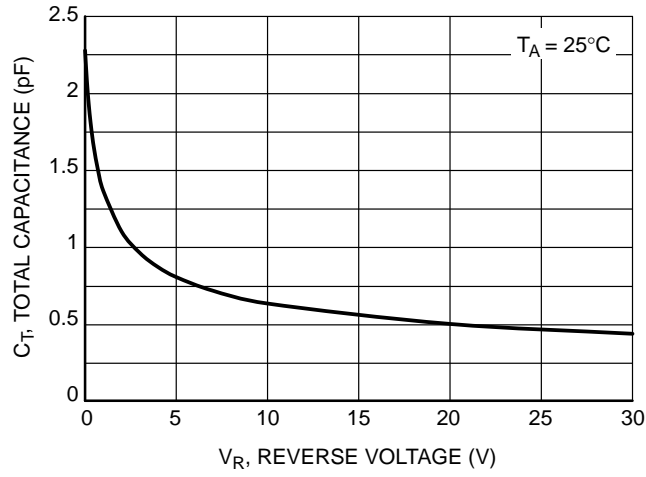
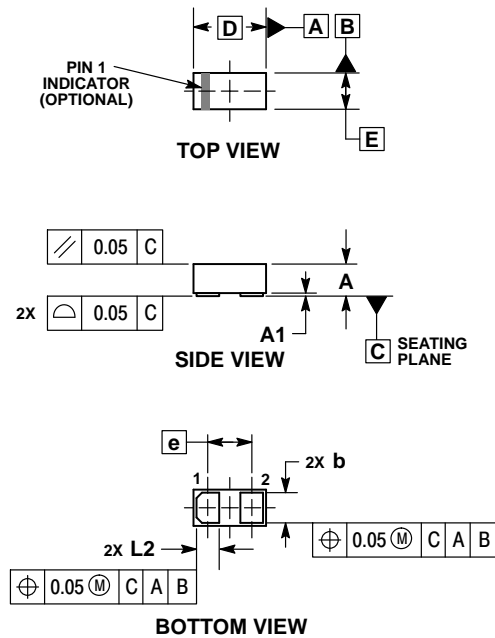


Figure 3. Total Capacitance

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## PACKAGE DIMENSIONS

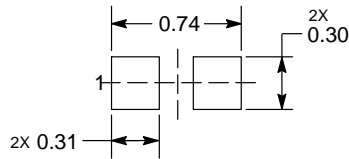
**X3DFN2, 0.62x0.32, 0.355P, (0201)**  
**CASE 152AF**  
**ISSUE A**



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

MILLIMETERS		
DIM	MIN	MAX
A	0.25	0.33
A1	—	0.05
b	0.22	0.28
D	0.58	0.66
E	0.28	0.36
e	0.355 BSC	
L2	0.17	0.23

### RECOMMENDED 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.

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