

# Schottky Barrier Diode

## NSR01L30MX

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	HBM	Class 1B (500 $\leq$ Failure < 1000)	V
Charge Device Model	CDM	C3 (JEDEC) (Failure $\geq$ 1000)	

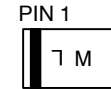
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## 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.

# NSR01L30MX

## 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.

# NSR01L30MX

## TYPICAL CHARACTERISTICS

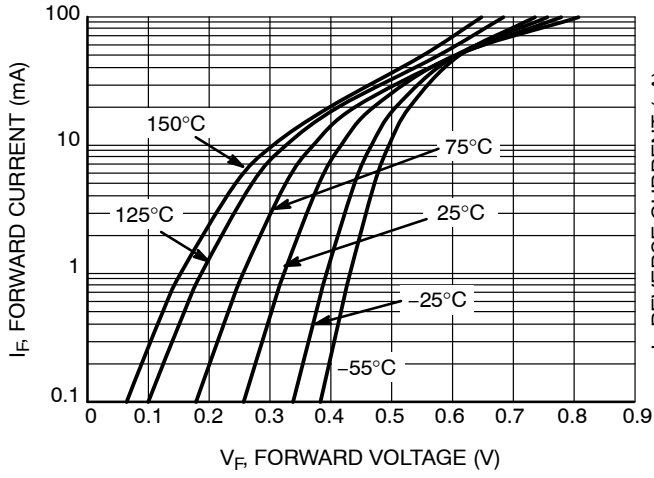


Figure 1. Forward Voltage

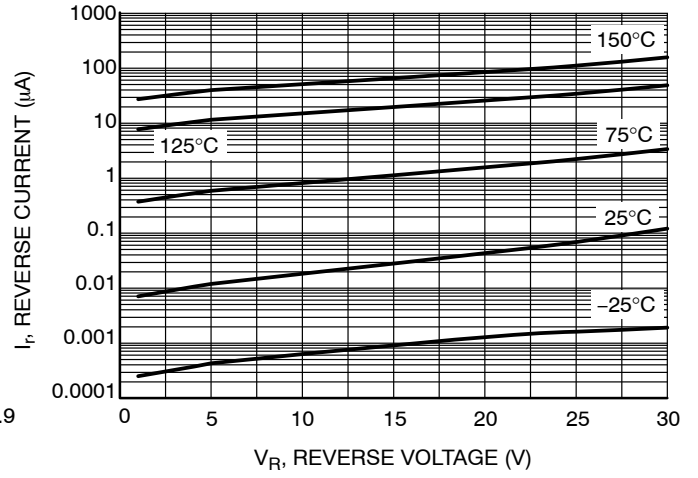


Figure 2. Leakage Current

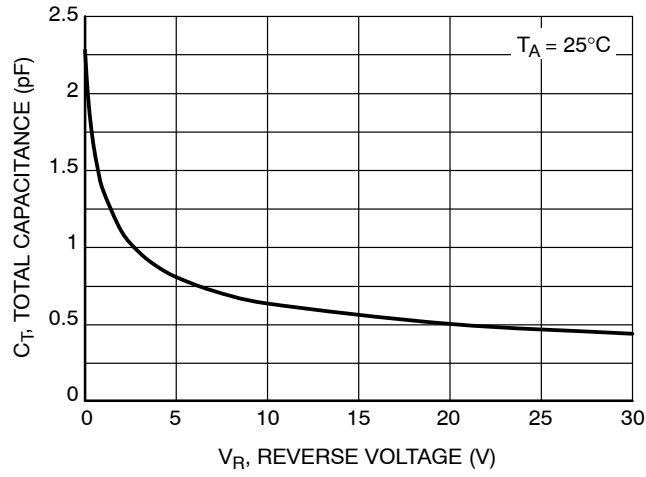
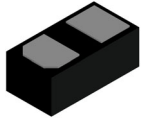
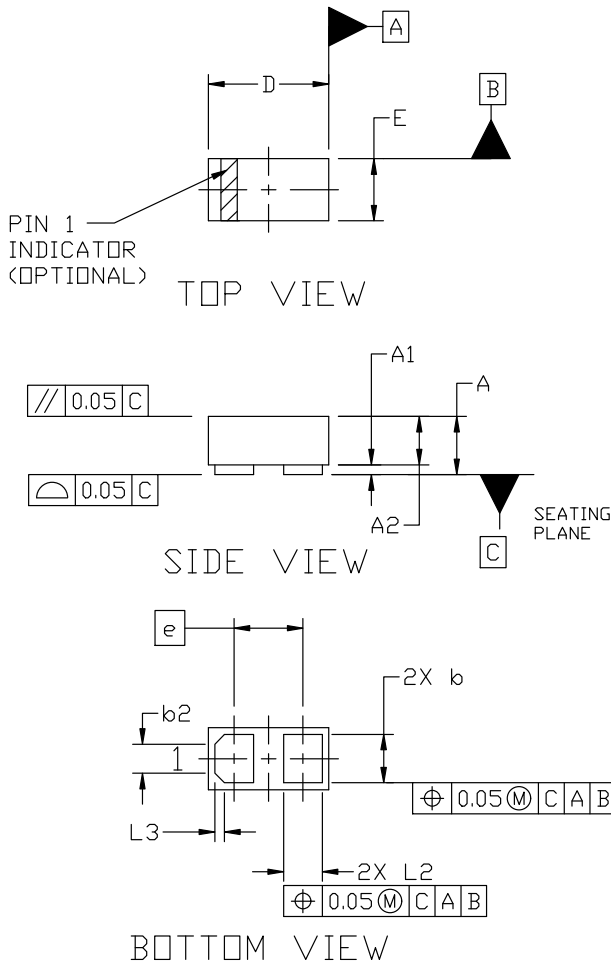


Figure 3. Total Capacitance



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

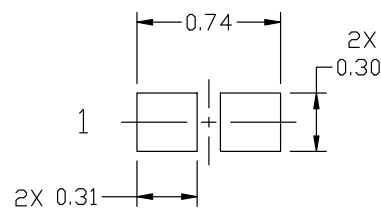
DATE 08 AUG 2023



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

**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, "C" or microdot "\*", may or may not be present. Some products may not follow the Generic Marking.

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