

NSR01L30MUT5G

Product Preview 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 μ 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 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.

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.



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30 V SCHOTTKY BARRIER DIODE



X3DFN2
CASE 152AF

MARKING DIAGRAM

PIN 1



E = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR01L30MUT5G	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.

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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	$^\circ\text{C/W}$ 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	μA
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

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TYPICAL CHARACTERISTICS

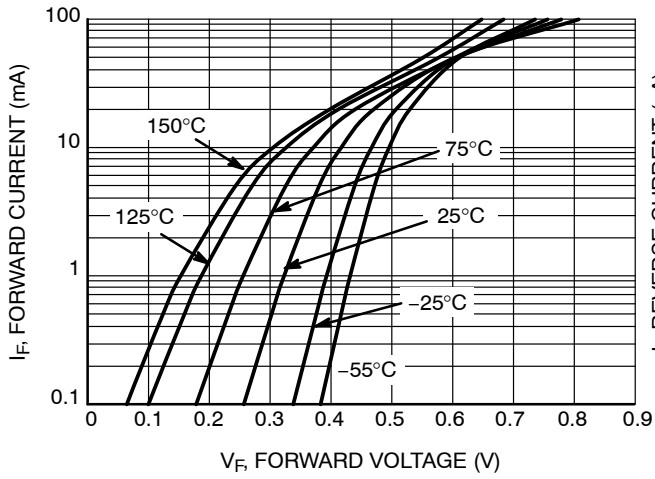


Figure 1. Forward Voltage

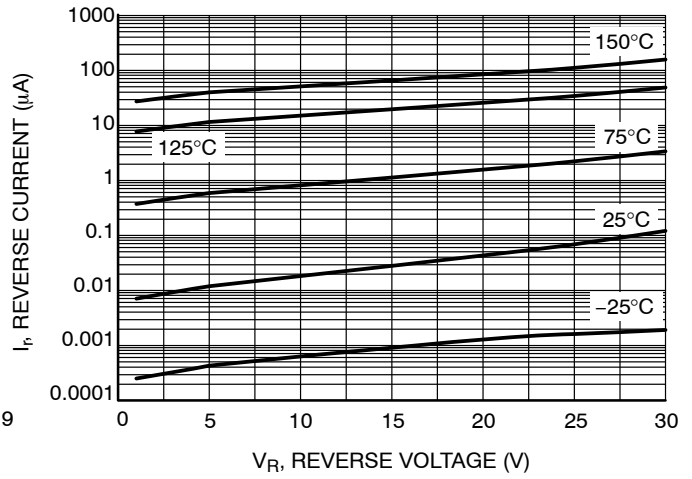


Figure 2. Leakage Current

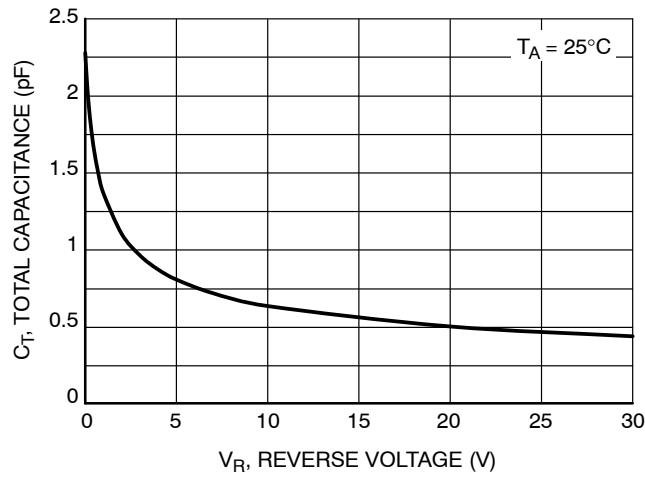
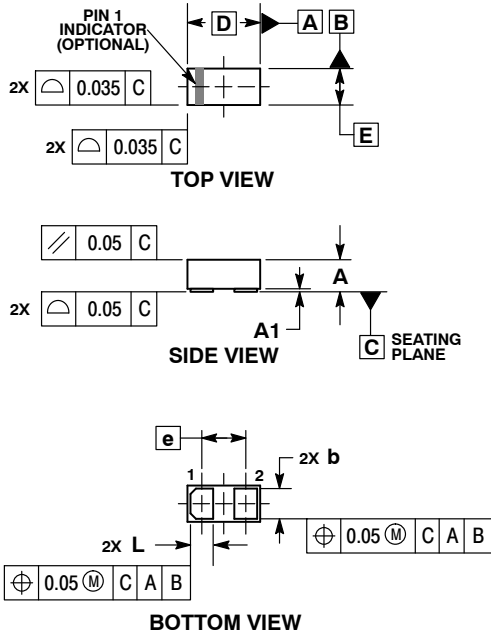


Figure 3. Total Capacitance

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PACKAGE DIMENSIONS

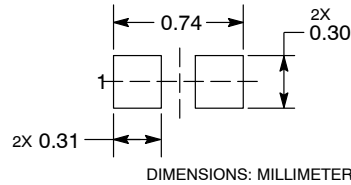
X3DFN2, 0.62x0.32, 0.355P, (0201)
CASE 152AF-01
ISSUE O



- 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	0.62	BSC
E	0.32	BSC
e	0.355	BSC
L	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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