

# OM SENI

## Schottky Barrier Diode

These Schottky barrier diodes are optimized for low forward voltage drop and low leakage current and are offered in a Chip Scale Package (CSP) to reduce board space. The low thermal resistance enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.

### Features

- Low Forward Voltage Drop – 400 mV @ 500 mA
- Low Reverse Current – 15  $\mu$ A @ 10 V VR
- 500 mA of Continuous Forward Current
- ESD Rating – Human Body Model: Class 3B  
– Machine Model: Class C
- High Switching Speed
- 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

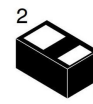
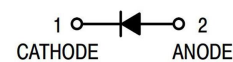
- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	V
Forward Current (DC)	$I_F$	500	mA
Forward Surge Current (60 Hz @ 1 cycle)	$I_{FSM}$	10	A
Repetitive Peak Forward Current (Pulse Wave = 1 sec, Duty Cycle = 66%)	$I_{FRM}$	4.0	A
ESD Rating: Human Body Model Machine Model	ESD	> 8 > 400	kV V

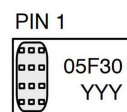
## NSR05F30NXT5G

### 30 V SCHOTTKY BARRIER DIODE



**DSN2  
(0402)  
CASE 152AC**

### MARKING DIAGRAM



05F30 = Specific Device Code  
YYY = Year Code

### ORDERING INFORMATION

Device	Package	Shipping†
NSR05F30NXT5G	DSN2 (Pb-Free)	5000 / 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 @ $T_A = 25^\circ\text{C}$	$R_{\theta JA}$ $P_D$			240 521	$^\circ\text{C/W}$ mW
Thermal Resistance Junction-to-Ambient (Note 2) Total Power Dissipation @ $T_A = 25^\circ\text{C}$	$R_{\theta JA}$ $P_D$			94 1.3	$^\circ\text{C/W}$ W
Storage Temperature Range	$T_{stg}$			-40 to +125	$^\circ\text{C}$
Junction Temperature	$T_J$			+150	$^\circ\text{C}$

1. Mounted onto a 4 in square FR-4 board 50 mm sq. 1 oz. Cu 0.06" thick single sided. Operating to steady state.
2. Mounted onto a 4 in square FR-4 board 1 in sq. 1 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 ( $V_R = 10\text{ V}$ ) ( $V_R = 30\text{ V}$ )	$I_R$			15 75	$\mu\text{A}$
Forward Voltage ( $I_F = 100\text{ mA}$ ) ( $I_F = 500\text{ mA}$ )	$V_F$		0.320 0.400	0.360 0.430	V

## TYPICAL CHARACTERISTICS

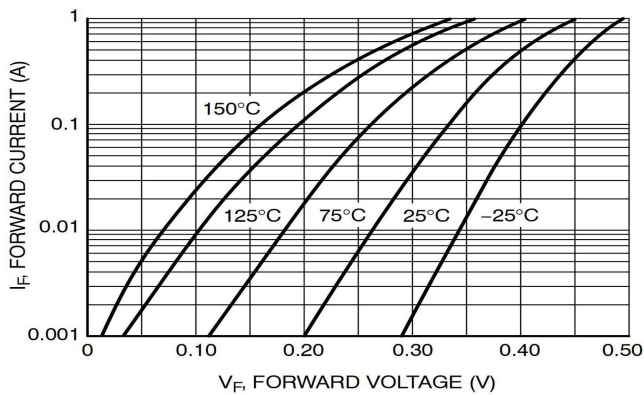


Figure 1. Forward Voltage

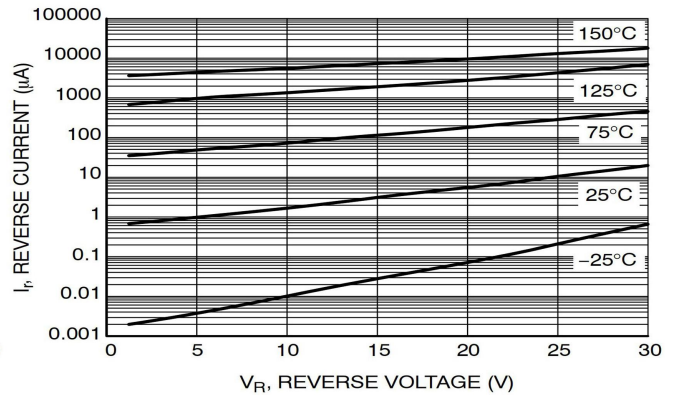


Figure 2. Leakage Current

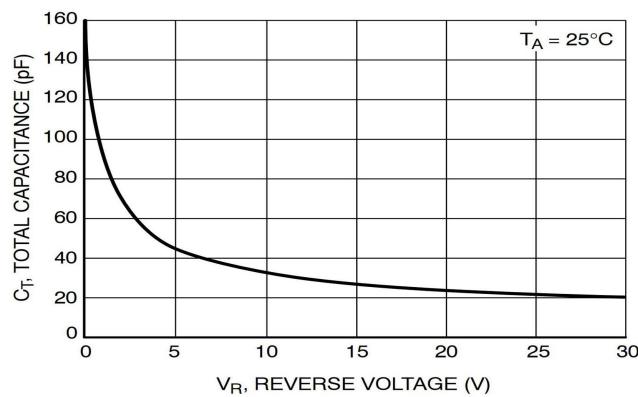
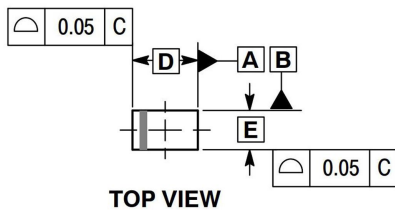


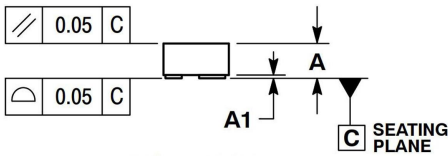
Figure 3. Total Capacitance

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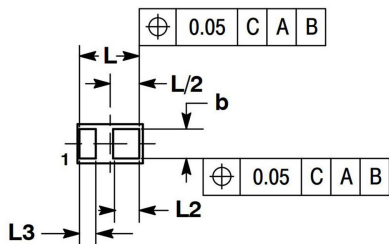
**DSN2, 1.0x0.6, 0.575P, (0402)**  
 CASE 152AC-01  
 ISSUE B



TOP VIEW

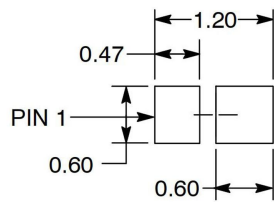


SIDE VIEW



BOTTOM VIEW

**RECOMMENDED  
 SOLDER FOOTPRINT\***



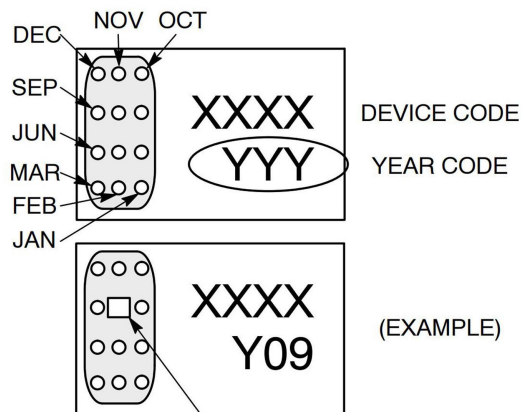
DIMENSIONS: MILLIMETERS

NOTES:

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

MILLIMETERS		
DIM	MIN	MAX
A	0.25	0.31
A1	---	0.05
b	0.45	0.55
D	1.00	BSC
E	0.60	BSC
L	0.85	0.95
L2	0.35	0.45
L3	0.20	0.30

**CATHODE BAND MONTH  
 CODING**



INDICATES AUG 2009