NSR10F20NXT5G

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 − 430 mV @ 1.0 A
- Low Reverse Current − 20 μA @ 10 V VR
- 1.0 A 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	20	V
Forward Current (DC)	I_F	1.0	A
Forward Surge Current (60 Hz @ 1 cycle)	I_{FSM}	18	A
ESD Rating: Human Body Model Machine Model	ESD	> 8 > 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.
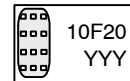
ON Semiconductor®

http://onsemi.com

20 V SCHOTTKY BARRIER DIODE

1 ○——▷|——○ 2
CATHODE   ANODE
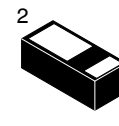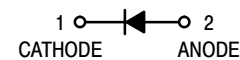
DSN2 (0502) CASE 152AD

MARKING DIAGRAM

PIN 1

10F20 YYY

10F20 = Specific Device Code
YYY = Year Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR10F20NXT5G	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.

NSR10F20NXT5G

THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Thermal Resistance Junction–to–Ambient (Note 1) Total Power Dissipation @ T_A = 25°C	$R_{\theta JA}$ P_D			228 548	°C/W mW
Thermal Resistance Junction–to–Ambient (Note 2) Total Power Dissipation @ T_A = 25°C	$R_{\theta JA}$ P_D			85 1.47	°C/W W
Storage Temperature Range	T_{stg}			−40 to +125	°C
Junction Temperature	T_J			+150	°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°C unless otherwise noted)

| Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage (V_R = 10 V) (V_R = 20 V)	I_R			20 100	μA
Forward Voltage (I_F = 0.5 A) (I_F = 1.0 A)	V_F		0.380 0.430	0.400 0.450	V
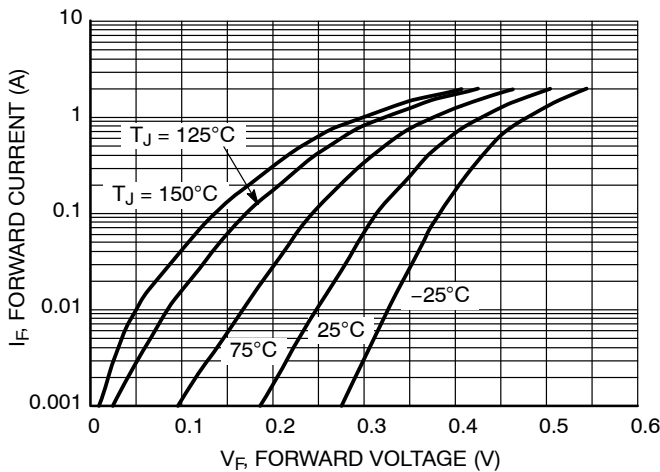
Figure 1. Forward Voltage
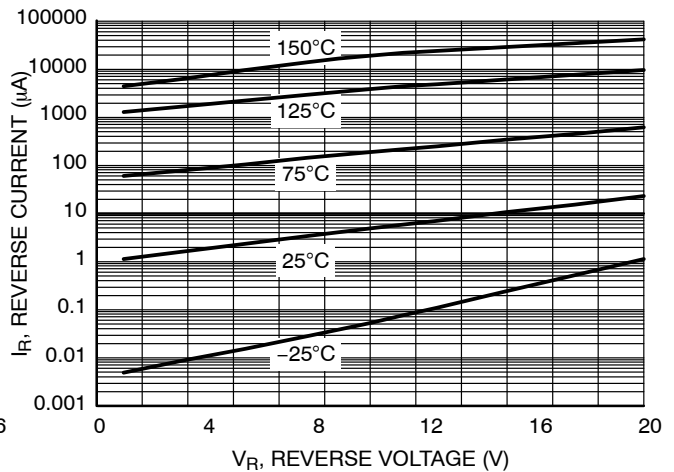
Figure 2. Typical Reverse Current
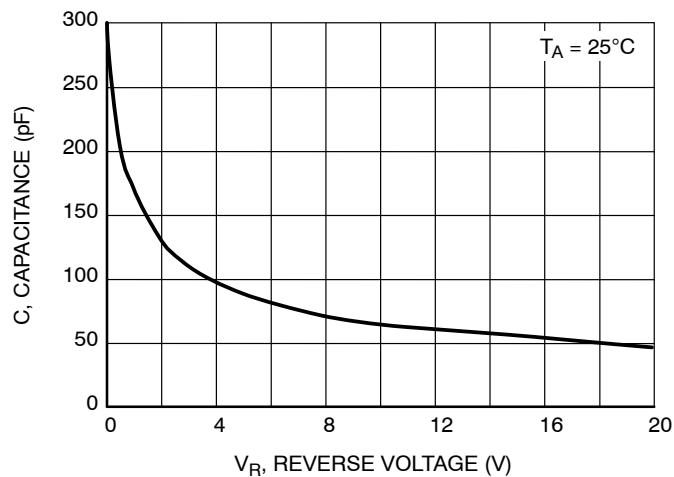
Figure 3. Typical Capacitance

NSR10F20NXT5G

PACKAGE DIMENSIONS

DSN2, 1.4x0.6, 0.75P
CASE 152AD−01
ISSUE A

TOP VIEW

SIDE VIEW

BOTTOM VIEW

MOUNTING FOOTPRINT*

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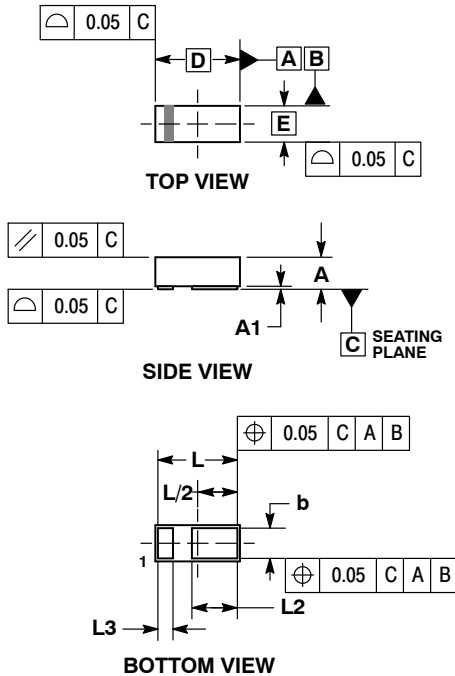
NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.

DIM	MILLIMETERS	
	MIN	MAX
A	0.25	0.31
A1	---	0.05
b	0.45	0.55
D	1.40 BSC	
E	0.60 BSC	
L	1.20	1.30
L2	0.70	0.80
L3	0.20	0.30

CATHODE BAND MONTH CODING

DEC NOV OCT
SEP
JUN
MAR
FEB
JAN

XXXX
YYY

DEVICE CODE

YEAR CODE

XXXX
Y09

(EXAMPLE)

INDICATES AUG 2009
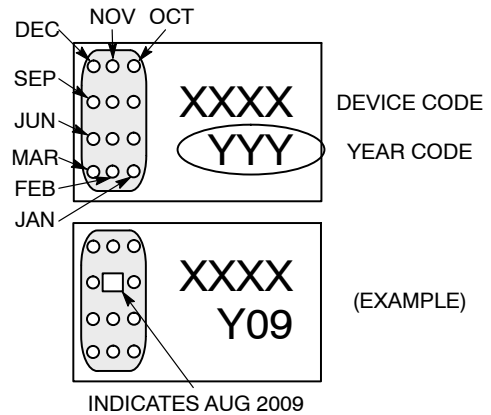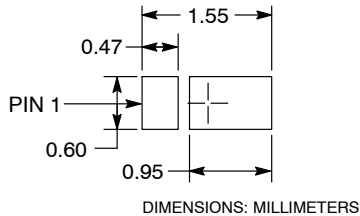
See Application Note AND8398/D for more mounting details

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

NSR10F20/D