NSR05F20NXT5G
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 − 390 mV @ 500 mA
- Low Reverse Current − 15 µA @ 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

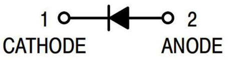
Markets

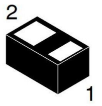
- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	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

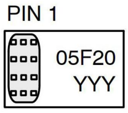
20 V SCHOTTKY BARRIER DIODE





DSN2
(0402)
CASE 152AC

MARKING DIAGRAM



05F20 = Specific Device Code
YYY = Year Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR05F20NXT5G	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.

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			240 521	°C/W mW
Thermal Resistance Junction–to–Ambient (Note 2) Total Power Dissipation @ T_A = 25°C	$R_{\theta JA}$ P_D			94 1.3	°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			15 75	µA
Forward Voltage (I_F = 100 mA) (I_F = 500 mA)	V_F		0.330 0.390	0.345 0.430	V

TYPICAL CHARACTERISTICS

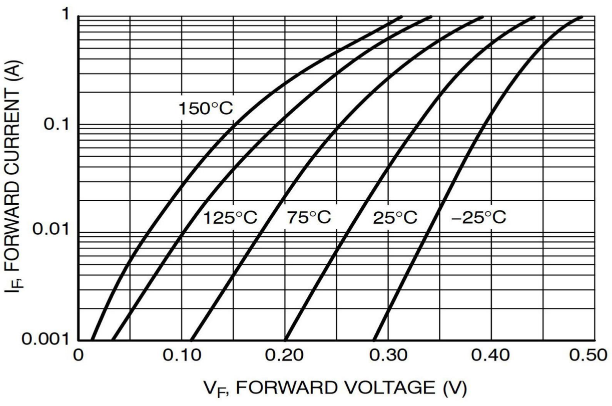


Figure 1. Forward Voltage

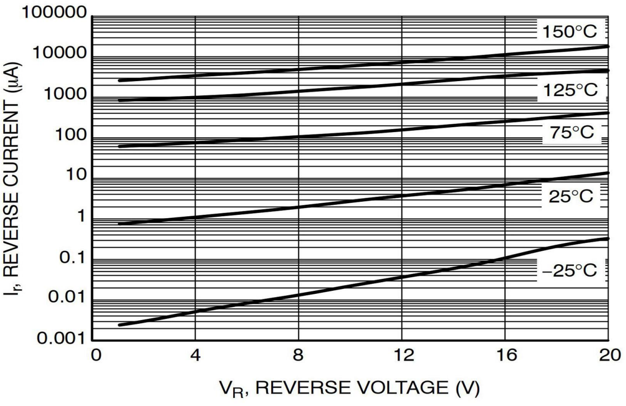


Figure 2. Leakage Current

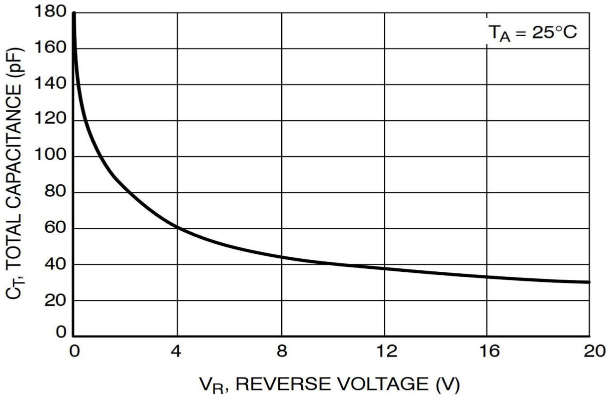
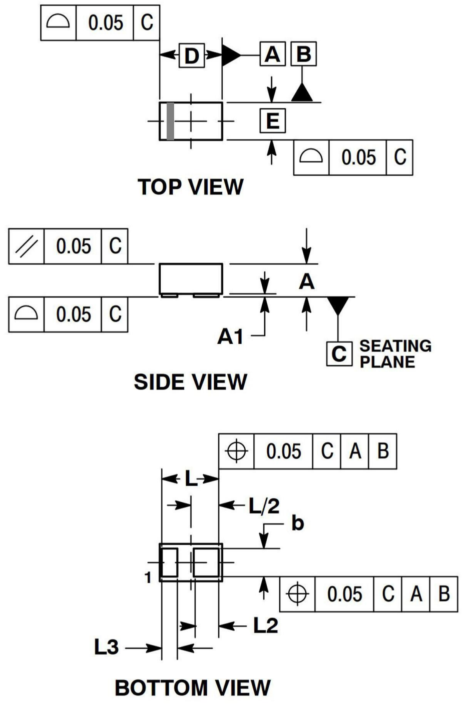


Figure 3. Total Capacitance

DSN2, 1.0x0.6, 0.575P, (0402)

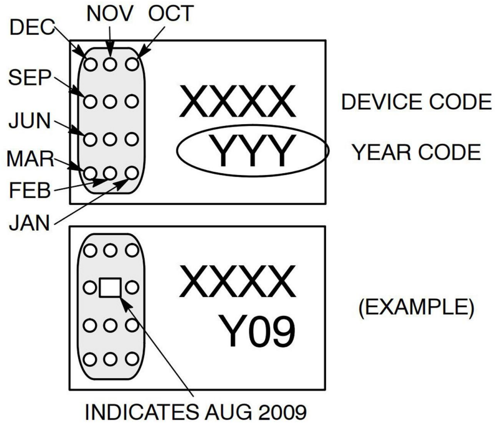
CASE 152AC−01
ISSUE B



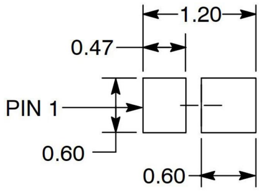
NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.

	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



RECOMMENDED SOLDER FOOTPRINT*



DIMENSIONS: MILLIMETERS