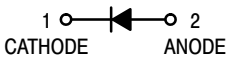
Schottky Barrier Diode

NSR05F40NXT5G

40 V 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

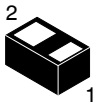
- Low Forward Voltage Drop – 420 mV @ 500 mA
- Low Reverse Current – 15 μA @ 10 V VR
- 500 mA of Continuous Forward Current
- ESD Rating – Human Body Model: Class 3B
  – Machine Model: Class C
- High Switching Speed
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- 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 and Protection

Markets

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



DSN2
(0402)
CASE 152AC

MARKING DIAGRAMS



AC = Specific Device Code
M = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR05F40NXT5G	DSN2 (Pb−Free)	5000 / Tape & Reel
NSVR05F40NXT5G	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.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	40	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

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.

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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°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 Operating Temperature Range	T_J	–40 to +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 = 40 V)	I_R			 15 75	μA
Forward Voltage (I_F = 100 mA) (I_F = 500 mA)	V_F		 0.340 0.420	 0.360 0.460	V
Total Capacitance (V_R = 1 V, f = 1 MHz) (V_R = 10 V, f = 1 MHz)	C_T		 70 27	 80 35	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.

Share Feedback
Your Opinion Matters

TYPICAL CHARACTERISTICS

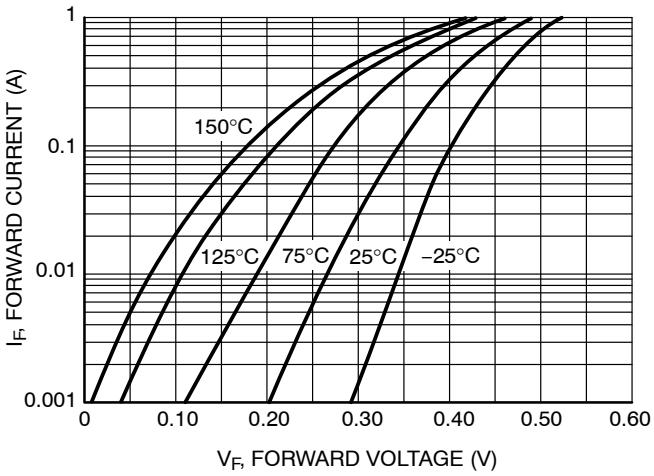


Figure 1. Forward Voltage

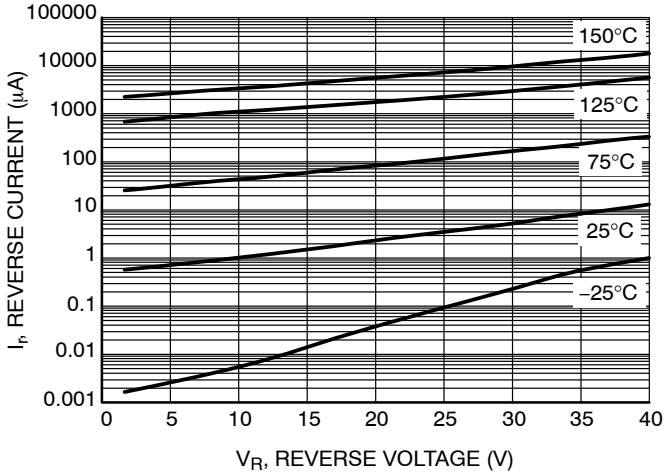


Figure 2. Leakage Current

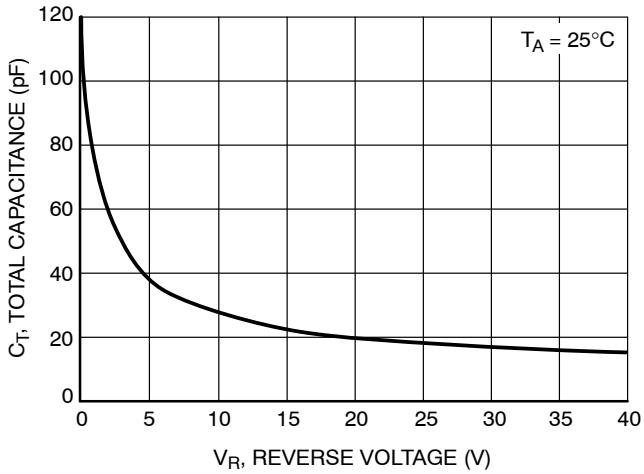


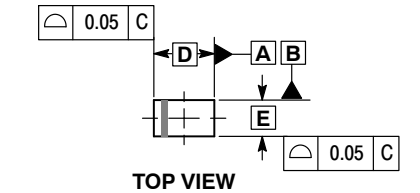
Figure 3. Total Capacitance

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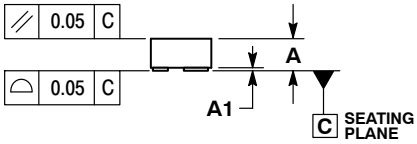
DSN2, 1.0x0.6, 0.575P, (0402)
CASE 152AC
ISSUE D

DATE 27 APR 2017

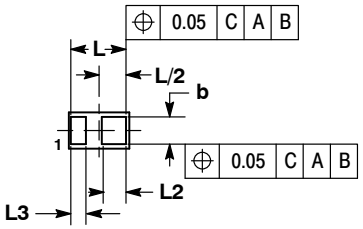
SCALE 8:1



TOP VIEW



SIDE VIEW

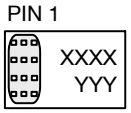


BOTTOM VIEW

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

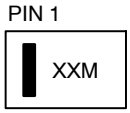
	MILLIMETERS	
DIM	MIN	MAX
A	0.25	0.31
A1	---	0.05
b	0.45	0.55
D	1.00 BSC	
E	0.60 BSC	
L	0.85	0.95
L2	0.35	0.45
L3	0.20	0.30

GENERIC MARKING DIAGRAM1*



XXXX = Specific Device Code
YYY = Year Code

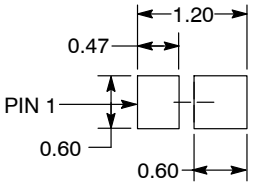
GENERIC MARKING DIAGRAM2*



XX = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G”, may or not be present. Some products may not follow the Generic Marking.

RECOMMENDED SOLDER FOOTPRINT*

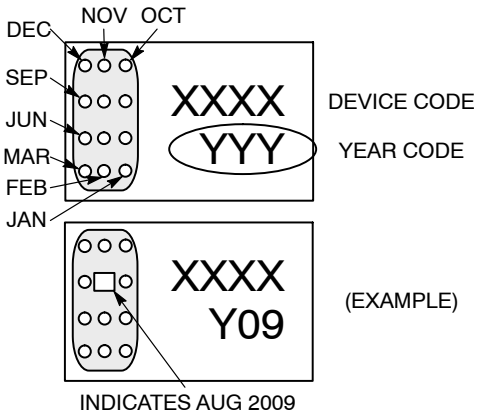


DIMENSIONS: MILLIMETERS

See Application Note AND8464/D for more mounting details

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

CATHODE BAND MONTH CODING



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