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NSR01L30P2T5G

Schottky Barrier Diode

These Schottky barrier diodes are designed for high-speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand-held and portable applications where space is limited.

Features

- Extremely Fast Switching Speed
- Extremely Low Forward Voltage 0.385 V (max) @ $I_F = 10$ mA
- Low Reverse Current
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|-----------|-------|------|
| Reverse Voltage | V_R | 30 | Vdc |
| Forward Current DC | I_F | 100 | mA |
| Forward Current Surge Peak (60 Hz, 1 cycle) | I_{FSM} | 1.0 | A |
| ESD Rating: Class 3B per Human Body Model Class B per Machine Model | | | |

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.

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|--|-----------------|----------------|----------------------------|
| Total Device Dissipation FR-5 Board, (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 200 2.0 | mW mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 600 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature Range | T_J, T_{stg} | -55 to +125 | $^\circ\text{C}$ |

1. FR-5 Minimum Pad.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|--|--------|--------|--------|----------------|---------------|
| Reverse Leakage ($V_R = 10$ V) ($V_R = 30$ V) | I_R | - - | - - | 0.35 2.0 | μA |
| Forward Voltage ($I_F = 10$ mA) ($I_F = 100$ mA) | V_F | - - | - - | 0.385 0.525 | Vdc |

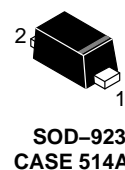
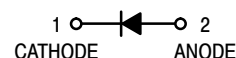
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



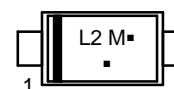
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30 V SCHOTTKY BARRIER DIODE



MARKING DIAGRAM



L2 = Specific Device Code
M = Month Code
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

| Device | Package | Shipping† |
|---------------|----------------------|--------------------------------|
| NSR01L30P2T5G | SOD-923 (Pb-Free) | 2 mm Pitch 8000/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.

NSR01L30P2T5G

TYPICAL CHARACTERISTICS

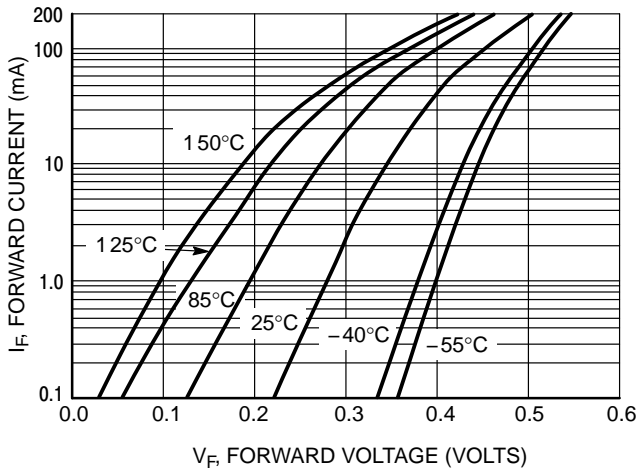


Figure 1. Forward Voltage

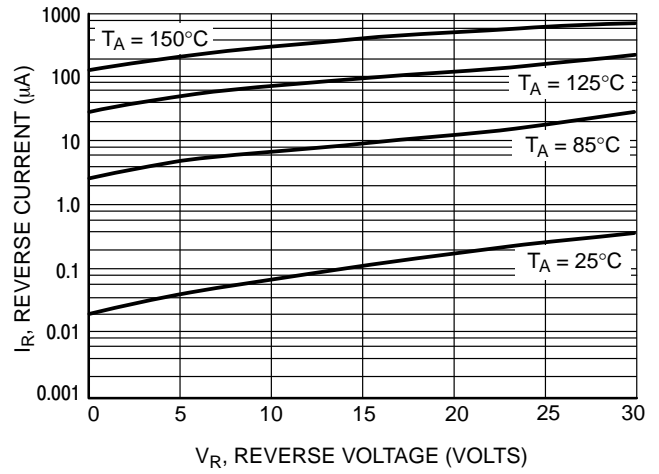


Figure 2. Leakage Current

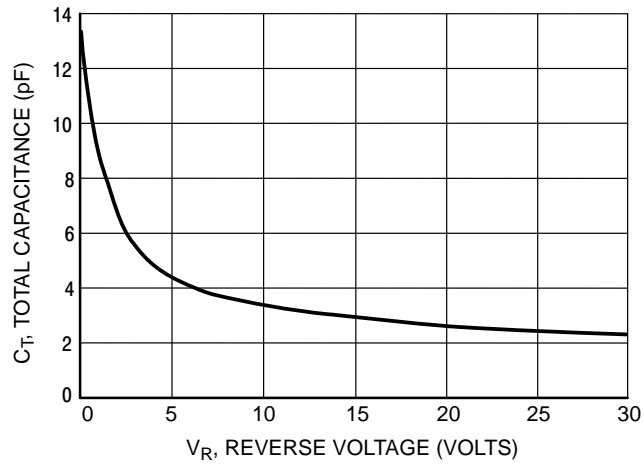
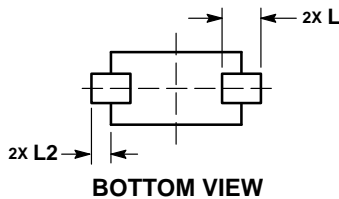
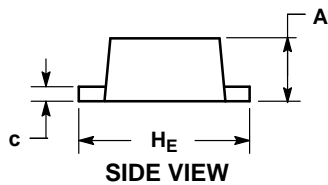
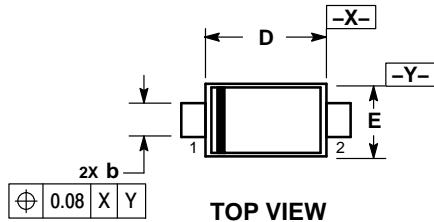


Figure 3. Total Capacitance

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PACKAGE DIMENSIONS

SOD-923
CASE 514AA
ISSUE E

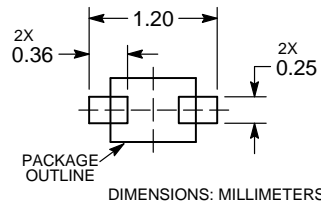


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM | MILLIMETERS | | | INCHES | | |
|----------------|-------------|------|------|-----------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.34 | 0.39 | 0.43 | 0.013 | 0.015 | 0.017 |
| b | 0.15 | 0.20 | 0.25 | 0.006 | 0.008 | 0.010 |
| c | 0.07 | 0.12 | 0.17 | 0.003 | 0.005 | 0.007 |
| D | 0.75 | 0.80 | 0.85 | 0.030 | 0.031 | 0.033 |
| E | 0.55 | 0.60 | 0.65 | 0.022 | 0.024 | 0.026 |
| H _E | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| L | 0.19 REF | | | 0.007 REF | | |
| L2 | 0.05 | 0.10 | 0.15 | 0.002 | 0.004 | 0.006 |

SOLDERING FOOTPRINT*



See Application Note AND8455/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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