Schottky Barrier Diode

NSRLL30XV2

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 0.6 V (max) @ I_F = 200 mA
- Low Reverse Current
- ESD Rating: Class 3B per Human Body Model
  Class C per Machine Model
- This is a Pb-Free Device

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Forward Current DC	I_F	200	mA

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

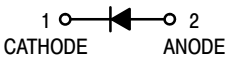
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (Note 1) T_A = 25 °C Derate above 25 °C	P_D	200 1.57	mW mW/°C
Non-Repetitive Peak Forward Current, t_p < 10 msec	I_{FSM}	600	mA
Repetitive Peak Forward Current Pulse Wave = 1 sec, Duty Cycle = 66%	I_{FRM}	300	mA
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C

1. FR-5 Minimum Pad.

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage (V_R = 10 V)	I_R	−	−	1.0	μA
Forward Voltage (I_F = 200 mA)	V_F	−	−	0.60	V

30 VOLT SCHOTTKY BARRIER DIODE



SOD-523
CASE 502

MARKING DIAGRAM

RT = Device Code
M = Date Code*
▪ = Pb-Free Package

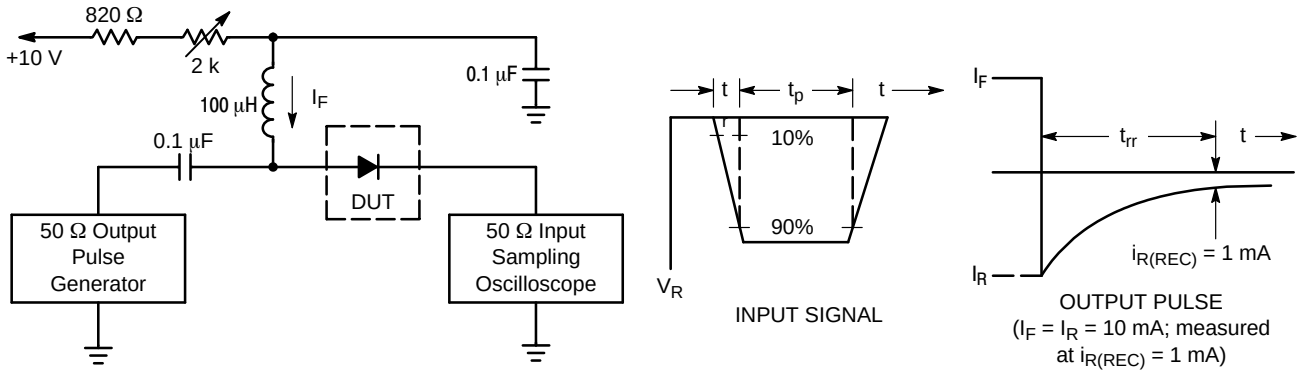
(Note: Microdot may be in either location)

* Date Code orientation position may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
NSRLL30XV2T1G	SOD-523 (Pb-Free)	3000/Tape & Reel
NSRLL30XV2T5G	SOD-523 (Pb-Free)	8000/Tape & Reel

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

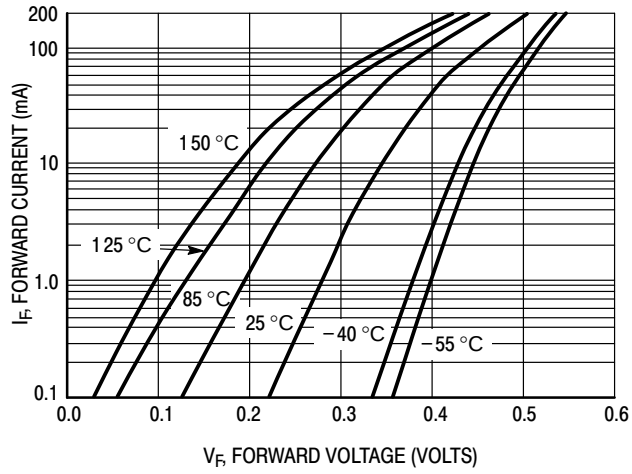


Figure 2. Forward Voltage

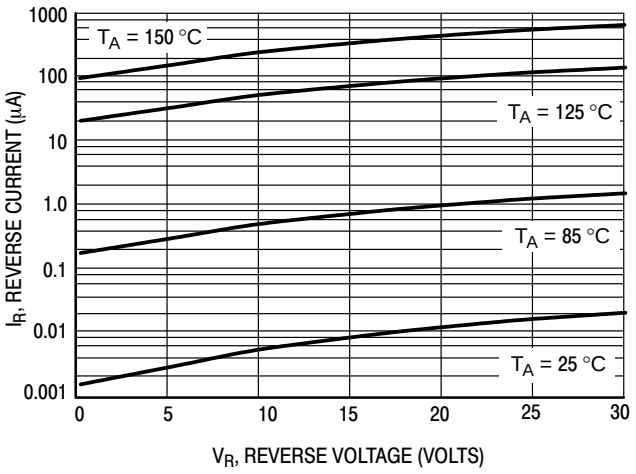


Figure 3. Leakage Current

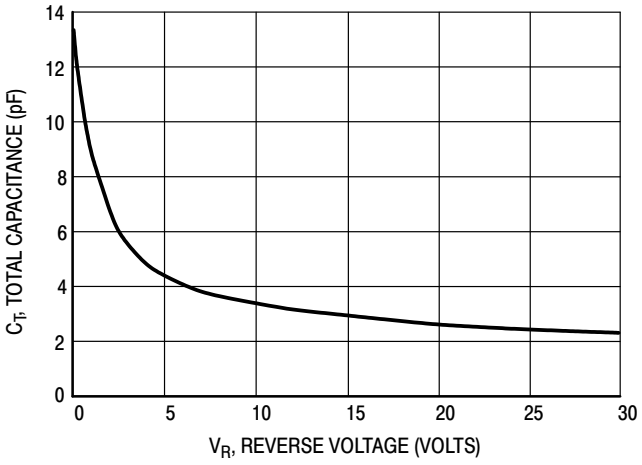


Figure 4. Total Capacitance

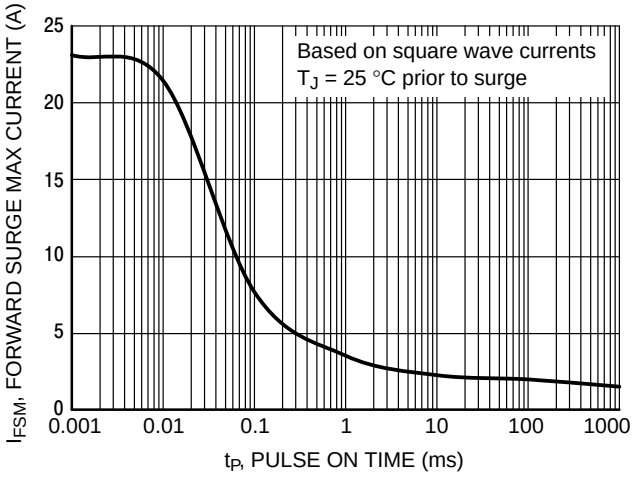
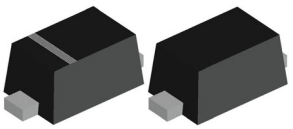


Figure 5. Forward Surge Current

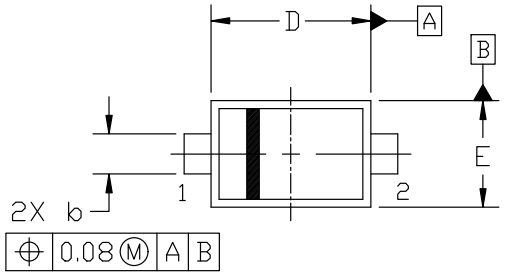
REVISION HISTORY

Revision	Description of Changes	Date
5	Rebranded the Data Sheet to **onsemi** format.	6/17/2025

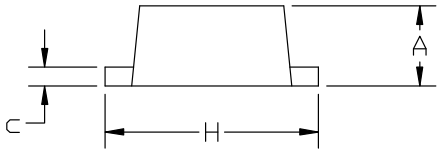


SOD−523 1.20x0.80x0.60
CASE 502
ISSUE F

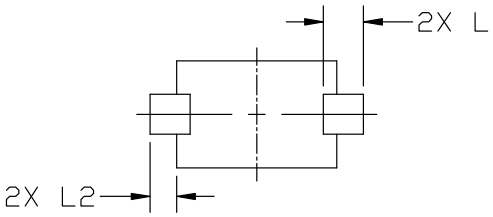
DATE 08 FEB 2024



TOP VIEW



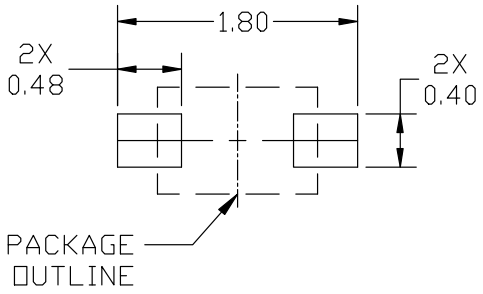
SIDE VIEW



BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
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.

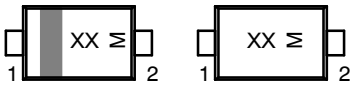
	MILLIMETERS		
DIM	MIN.	NOM.	MAX.
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
H	1.50	1.60	1.70
L	0.30 REF		
L2	0.15	0.20	0.25



RECOMMENDED MOUNTING FOOTPRINT

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

GENERIC MARKING DIAGRAM*



STYLE 1 STYLE 2

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” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

STYLE 2:
NO POLARITY

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DESCRIPTION:	**SOD−523 1.20x0.80x0.60**		**PAGE 1 OF 1**

ADDITIONAL INFORMATION

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