Dual Common Cathode Schottky Barrier Diodes

NSR30CM3

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
- Low Forward Voltage - 0.35 V (Typ) @ I_F = 10 mA
- NSVR Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- This is a Pb-Free Device

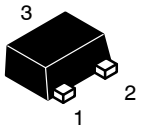
MAXIMUM RATINGS (T_J = 125 °C unless otherwise noted)

Symbol	Rating	Value	Unit
V_R	Reverse Voltage	30	Volts
P_F	Forward Power Dissipation @ T_A = 25 °C Derate above 25 °C	 190 1.9	 mW mW/°C
I_F	Forward Current (DC)	200 Max	mA
T_J	Junction Temperature	125 Max	°C
T_{stg}	Storage Temperature Range	−55 to +150	°C
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient (Note 1)	525	°C/W

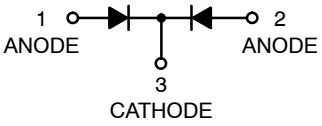
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR−4 board with minimum mounting pad.

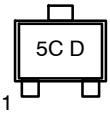
30 VOLTS
DUAL COMMON CATHODE
SCHOTTKY BARRIER DIODES



SOT-723
CASE 631AA
STYLE 3



MARKING DIAGRAM



5C = Specific Device Code
D = Date Code

ORDERING INFORMATION

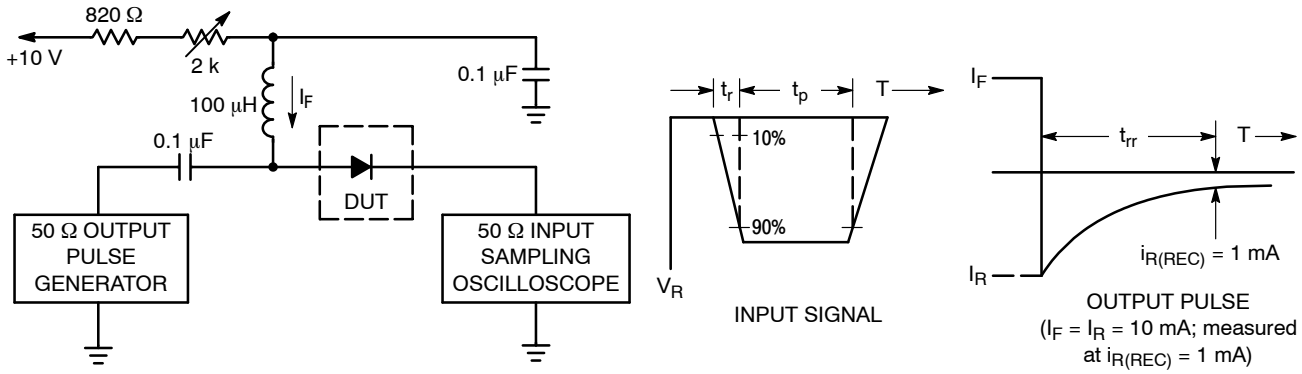
Device	Package	Shipping†
NSR30CM3T5G	SOT-723 (Pb-Free)	8,000 / Tape & Reel
NSVR30CM3T5G	SOT-723 (Pb-Free)	8,000 / Tape & Reel

† 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.

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

Symbol	Characteristic	Min	Typ	Max	Unit
$V_{(BR)R}$	Reverse Breakdown Voltage (I_R = 10 μA)	30	–	–	V
C_T	Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	–	7.6	10	pF
I_R	Reverse Leakage (V_R = 25 V)	–	0.5	2.0	μA
V_F	Forward Voltage (I_F = 0.1 mA) (I_F = 1.0 mA) (I_F = 10 mA) (I_F = 30 mA) (I_F = 100 mA)	 – – – – –	 0.22 0.29 0.35 0.41 0.52	 0.24 0.32 0.40 0.50 0.80	V
t_{rr}	Reverse Recovery Time (I_F = I_R = 10 mA, $I_{R(REC)}$ = 1.0 mA, Figure 1)	–	–	5.0	ns
I_F	Forward Current (DC)	–	–	200	mA
I_{FRM}	Repetitive Peak Forward Current	–	–	300	mA
I_{FSM}	Non-Repetitive Peak Forward Current (t < 1.0 s)	–	–	600	mA

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.



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

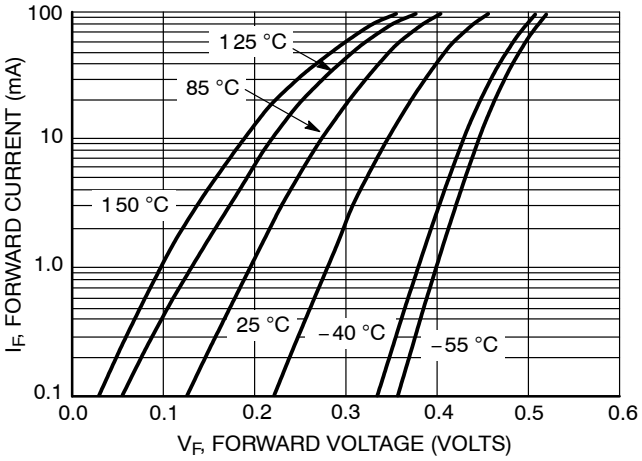


Figure 2. Forward Voltage

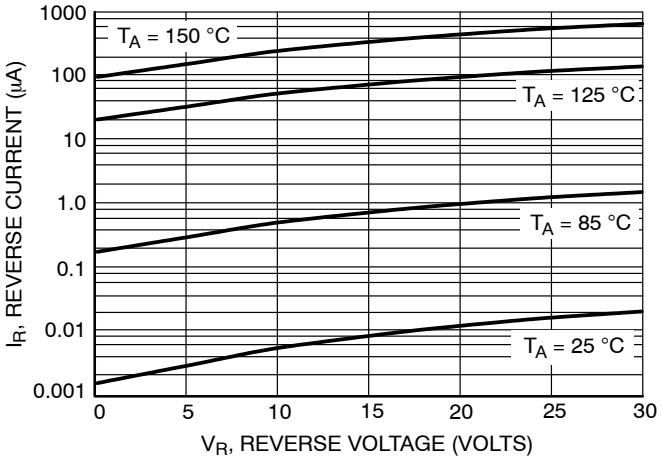


Figure 3. Leakage Current

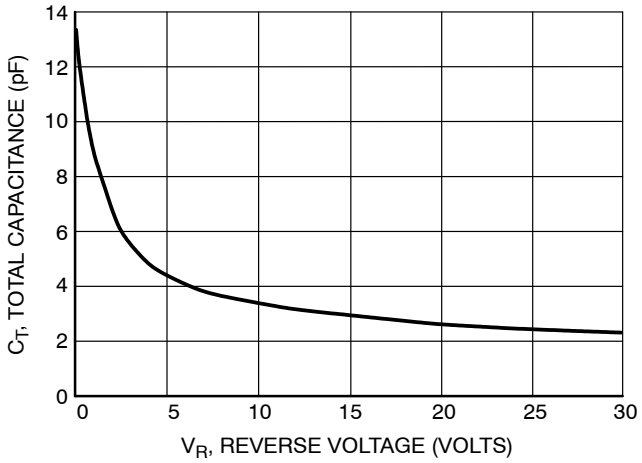
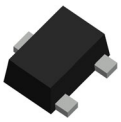


Figure 4. Total Capacitance

REVISION HISTORY

Revision	Description of Changes	Date
6	Rebranded the Data Sheet to **onsemi** format.	10/10/2025

This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.

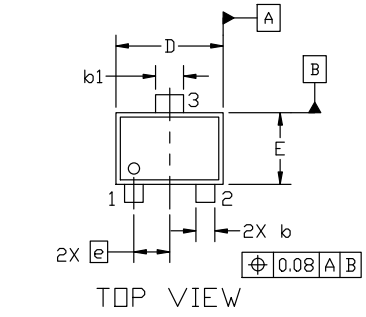


SOT−723 1.20x0.80x0.50, 0.40P
CASE 631AA
ISSUE E

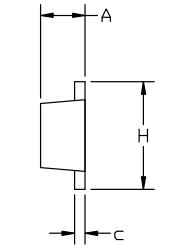
DATE 24 JAN 2024

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.

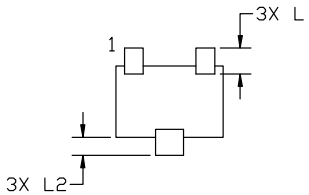
DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
c	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25



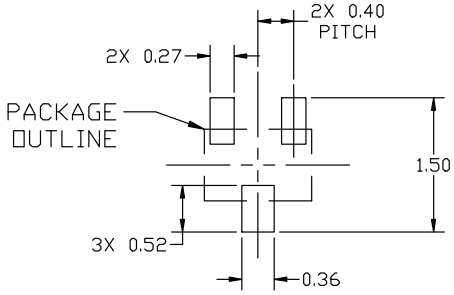
TOP VIEW



SIDE VIEW



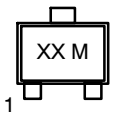
BOTTOM VIEW



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*



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. BASE
2. EMITTER
3. COLLECTOR

STYLE 2:
PIN 1. ANODE
2. N/C
3. CATHODE

STYLE 3:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. GATE
2. SOURCE
3. DRAIN

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DESCRIPTION:	**SOT−723 1.20x0.80x0.50, 0.40P**	**PAGE 1 OF 1**

ADDITIONAL INFORMATION

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