NSR0140M2T5G

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 -0.28 V (Typ) @ $I_F = 1.0 \text{ mAdc}$
- Low Reverse Current
- Lead-Free Plating
- Pb-Free Package is Available



ON Semiconductor®

http://onsemi.com

40 V SCHOTTKY BARRIER DIODE



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SOD-723 CASE 509AA PLASTIC

MARKING DIAGRAM



7E = Specific Device Code

M = Month Code

= Pb-Free Package

(Note: Microdot may be in either location)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit	
Peak Reverse Voltage	V_{RM}	40	V	
Reverse Voltage	V _R	30	V	
Forward Continuous Current (DC)	IF	30	mA	
Peak Forward Surge Current	I _{FSM}	500	mA	
ESD Rating: Class 1C per Human Body Model				

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR–5 Board, (Note 1) T _A = 25°C Derate above 25°C	P _D	100 1.0	mW mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{ heta JA}$	1000	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	-55 to +125	°C

1. FR-5 Minimum Pad.

ORDERING INFORMATION

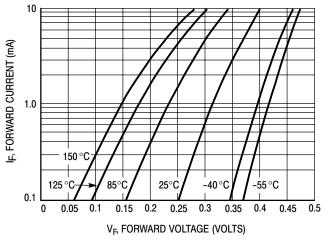
Device	Package	Shipping†	
NSR0140M2T5G	SOD-723	2 mm Pitch 8000/Tape & Reel	

†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.

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

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	30	-	-	V
Total Capacitance (V _R = 1.0 V, f = 1.0 MHz)	Ст	-	2.0	2.5	pF
Reverse Leakage (V _R = 30 V)	I _R	-	300	500	nAdc
Forward Voltage (I _F = 1.0 mAdc)	V _F	-	0.28	0.35	Vdc



1000

(Y 100

TA = 150°C

125°C

0.01

0.001

0 5 10 15 20 25 30 35

V_B, REVERSE VOLTAGE (VOLTS)

Figure 1. Typical Forward Voltage

Figure 2. Reverse Current versus Reverse Voltage

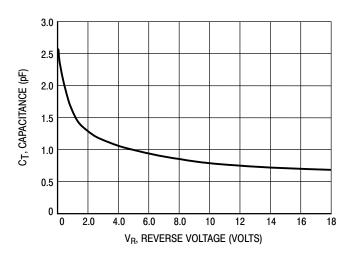
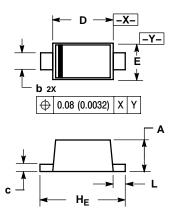


Figure 3. Typical Capacitance

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PACKAGE DIMENSIONS

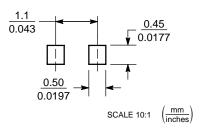
SOD-723 CASE 509AA-01 **ISSUE O**



- IOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.
- MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	MILLIMETERS			INCHES			
DIM	MIN	NOM	MAX	MIN	NOM	MAX	
Α	0.49	0.52	0.55	0.019	0.020	0.022	
b	0.25	0.28	0.32	0.0098	0.011	0.013	
С	0.08	0.12	0.15	0.0032	0.0047	0.0059	
D	0.95	1.00	1.05	0.037	0.039	0.041	
Е	0.55	0.60	0.65	0.022	0.024	0.026	
HE	1.35	1.40	1.45	0.053	0.055	0.057	
L	0.15	0.20	0.25	0.006	0.0079	0.010	

SOLDERING FOOTPRINT*



SOD-723

*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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