# onsemi

## **Schottky Barrier Diode**

# **RB751S40**

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<sub>F</sub> = 1.0 mAdc
- Low Reverse Current
- Lead-Free Plating
- 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

#### MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Reverse Voltage		V <sub>RM</sub>	40	V
Reverse Voltage		V <sub>R</sub>	30	V
Forward Continuous Current (DC)		١ <sub>F</sub>	30	mA
Peak Forward Surge Current		I <sub>FSM</sub>	500	mA
ESD Rating:	Class 1C per Human Body Model Class A per Machine Model			

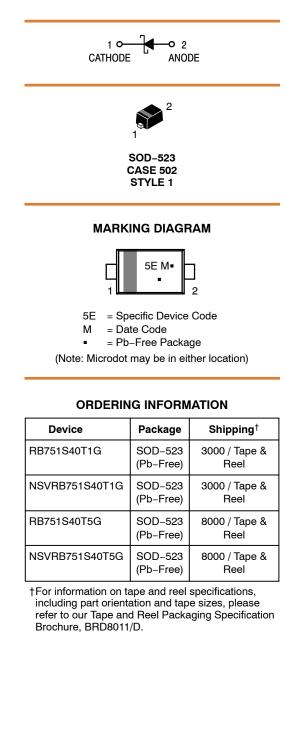
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

#### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (Note 1) $T_A = 25^{\circ}C$	PD	200	mW
Derate above 25°C		1.57	mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	–55 to +150	°C

1. FR-5 Minimum Pad.

### 40 V SCHOTTKY BARRIER DIODE

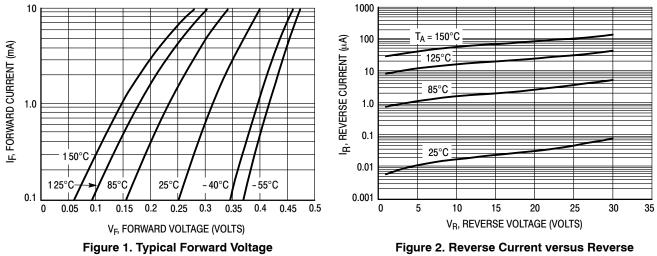


#### RB751S40

#### **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage $(I_R = 10 \ \mu A)$	V <sub>(BR)R</sub>	30	-	-	V
Total Capacitance (V <sub>R</sub> = 1.0 V, f = 1.0 MHz)	C <sub>T</sub>	-	2.0	2.5	pF
Reverse Leakage (V <sub>R</sub> = 30 V)	I <sub>R</sub>	-	300	500	nAdc
Forward Voltage (I <sub>F</sub> = 1.0 mAdc)	V <sub>F</sub>	-	0.28	0.37	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.



Voltage

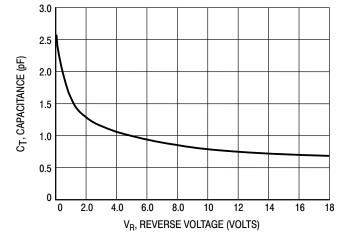
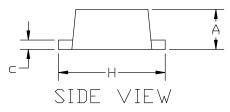
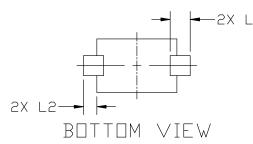


Figure 3. Typical Capacitance

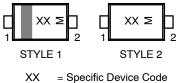
A B F 2 1 2Х h  $\oplus$ 0,08M AB







#### GENERIC **MARKING DIAGRAM\***



Date Code М

\*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 2: NO POLARITY STYLE 1: PIN 1. CATHODE (POLARITY BAND) 2. ANODE

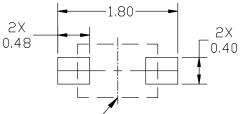
SOD-523 1.20x0.80x0.60 **CASE 502** ISSUE F

DATE 08 FEB 2024

NDTES:

- DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018. 1.
- 2.
- CONTROLLING DIMENSION: MILLIMETERS. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH, MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS З. OF BASE MATERIAL.
- DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. 4.

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



PACKAGE DUTLINE

#### RECOMMENDED MOUNTING FOOTPRINT

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

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

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