# **Dual Schottky Barrier Diode**

These devices are designed primarily for UHF mixer applications but are suitable also for use in detector and ultra-fast switching circuits.

#### **Features**

- Very Low Capacitance Less Than 1.0 pF @ Zero Volts
- Low Forward Voltage 0.5 Volts (Typ) @  $I_F = 10 \text{ mA}$
- Pb-Free Package is Available

#### **MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	7.0	V <sub>CC</sub>

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

#### THERMAL CHARACTERISTICS

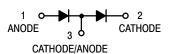
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1)  T <sub>A</sub> = 25°C	P <sub>D</sub>	200	mW
Derate above 25°C		1.6	mW/°C
Thermal Resistance, Junction–to–Ambient	$R_{\theta JA}$	625	°C/W
Total Device Dissipation Alumina Substrate (Note 2) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction–to–Ambient	$R_{ heta JA}$	417	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

- 1.  $FR-5 = 1.0 \times 0.75 \times 0.062$  in.
- 2. Alumina =  $0.4 \times 0.3 \times 0.024$  in. 99.5% alumina.



# ON Semiconductor®

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SOT-323 (SC-70) CASE 419 STYLE 9

#### **MARKING DIAGRAM**



M5 = Device Code M = Date Code

#### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
MMBD352WT1	SOT-323	3000/Tape & Reel
MMBD352WT1G	SOT-323 (Pb-Free)	3000/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.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				•
Forward Voltage (I <sub>F</sub> = 10 mAdc)	$V_{F}$	-	0.60	V
Reverse Voltage Leakage Current $(V_R = 3.0 \text{ V})$ $(V_R = 7.0 \text{ V})$	I <sub>R</sub>	- -	0.25 10	μΑ
Capacitance $(V_R = 0 \text{ V, f} = 1.0 \text{ MHz})$	С	-	1.0	pF

# **TYPICAL CHARACTERISTICS**

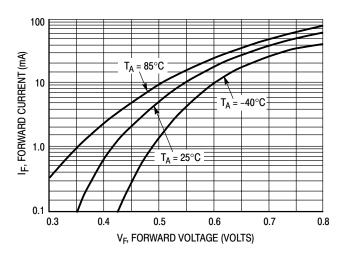


Figure 1. Forward Voltage

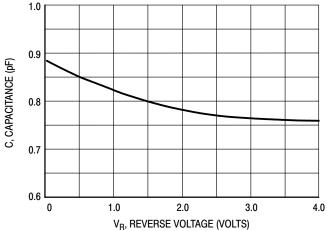
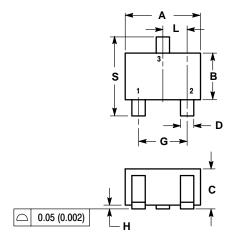
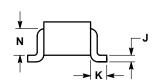


Figure 2. Capacitance

# **PACKAGE DIMENSIONS**

SOT-323 / SC-70 CASE 419-04 ISSUE L



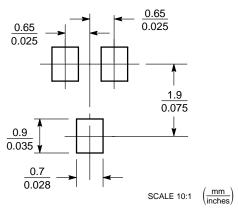


- NOTES:
  1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS		
DIM	MIN	MAX	MIN	MAX	
Α	0.071	0.087	1.80	2.20	
В	0.045	0.053	1.15	1.35	
С	0.032	0.040	0.80	1.00	
D	0.012	0.016	0.30	0.40	
G	0.047	0.055	1.20	1.40	
Н	0.000	0.004	0.00	0.10	
ſ	0.004	0.010	0.10	0.25	
K	0.017 REF		0.425 REF		
L	0.026 BSC		0.650 BSC		
N	0.028 REF		0.700 REF		
٥	0.070	0.005	2 00	2.40	

STYLE 9: PIN 1. ANODE 2. CATHODE 3. CATHODE-ANODE

# **SOLDERING 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.

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