

# MMBD352WT1G, NSVMMBD352WT1G

## 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 @ 0 V
- Low Forward Voltage – 0.5 V (Typ) @  $I_F = 10$  mA
- AEC Qualified and PPAP Capable
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant\*

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	7.0	$V_{CC}$

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

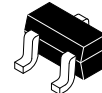
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200 1.6	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate (Note 2) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

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.

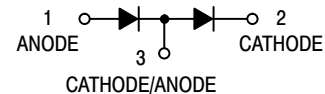


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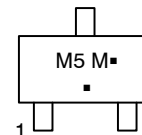
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SOT-323 (SC-70)  
CASE 419  
STYLE 9



### MARKING DIAGRAM



M5 = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

### ORDERING INFORMATION

Device	Package	Shipping†
MMBD352WT1G	SOT-323 (Pb-Free)	3,000 / Tape & Reel
NSVMMBD352WT1G	SOT-323 (Pb-Free)	3,000 / 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.

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

# MMBD352WT1G, NSVMMBD352WT1G

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Forward Voltage ( $I_F = 10 \text{ mA dc}$ )	$V_F$	-	0.60	V
Reverse Voltage Leakage Current ( $V_R = 3.0 \text{ V}$ ) ( $V_R = 7.0 \text{ V}$ )	$I_R$	- -	0.25 10	$\mu\text{A}$
Capacitance ( $V_R = 0 \text{ V}$ , $f = 1.0 \text{ MHz}$ )	C	-	1.0	pF

## TYPICAL CHARACTERISTICS

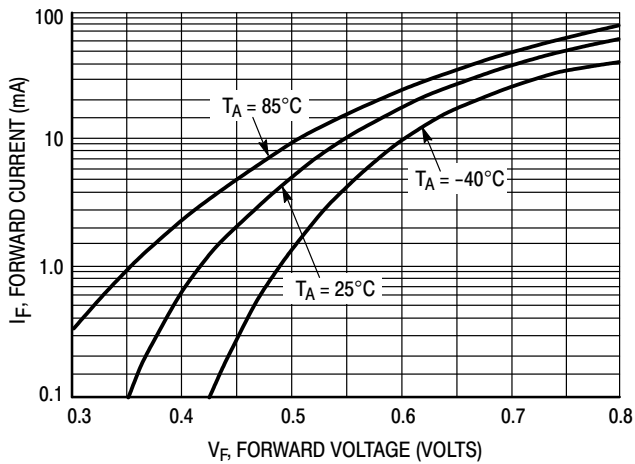


Figure 1. Forward Voltage

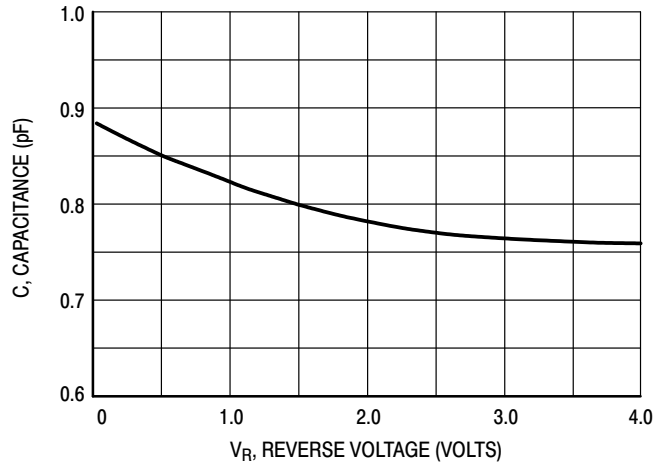
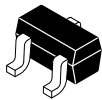


Figure 2. Capacitance

# MECHANICAL CASE OUTLINE

## PACKAGE DIMENSIONS

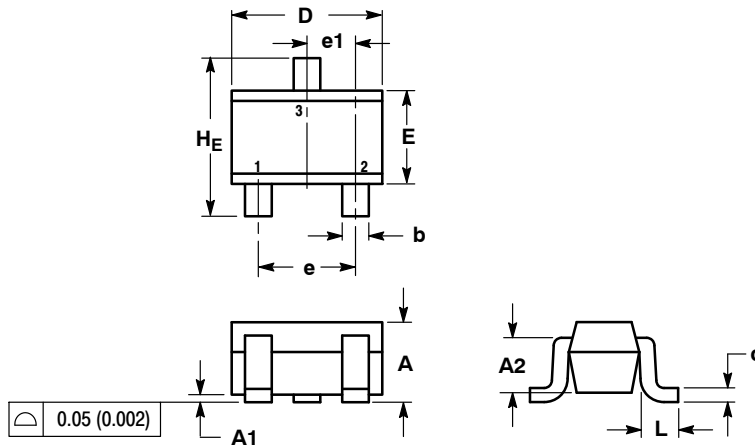
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SCALE 4:1

SC-70 (SOT-323)  
CASE 419-04  
ISSUE N

DATE 11 NOV 2008

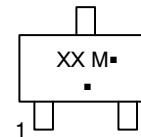


NOTES:

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

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
HE	2.00	2.10	2.40	0.079	0.083	0.095

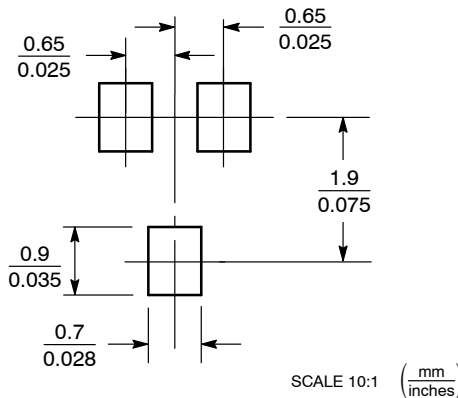
### GENERIC MARKING DIAGRAM



- XX = Specific Device Code
- M = Date Code
- = Pb-Free Package

\*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.

### 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.

- |   |   |   |  |   |   |
|---|---|---|--|---|---|
| STYLE 1:<br>CANCELLED                                 | STYLE 2:<br>PIN 1. ANODE<br>2. N.C.<br>3. CATHODE     | STYLE 3:<br>PIN 1. BASE<br>2. EMITTER<br>3. COLLECTOR | STYLE 4:<br>PIN 1. CATHODE<br>2. CATHODE<br>3. ANODE       | STYLE 5:<br>PIN 1. ANODE<br>2. ANODE<br>3. CATHODE          |   |
| STYLE 6:<br>PIN 1. EMITTER<br>2. BASE<br>3. COLLECTOR | STYLE 7:<br>PIN 1. BASE<br>2. EMITTER<br>3. COLLECTOR | STYLE 8:<br>PIN 1. GATE<br>2. SOURCE<br>3. DRAIN      | STYLE 9:<br>PIN 1. ANODE<br>2. CATHODE<br>3. CATHODE-ANODE | STYLE 10:<br>PIN 1. CATHODE<br>2. ANODE<br>3. ANODE-CATHODE | STYLE 11:<br>PIN 1. CATHODE<br>2. CATHODE<br>3. CATHODE |

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<b>DESCRIPTION:</b>	<b>SC-70 (SOT-323)</b>	<b>PAGE 1 OF 1</b>

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