

# 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

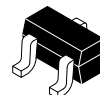
| Characteristic                                                                                                     | Symbol          | Max         | Unit                       |
|--------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|
| Total Device Dissipation FR-5 Board (Note 1)<br>$T_A = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$        | $P_D$           | 200<br>1.6  | mW<br>mW/ $^\circ\text{C}$ |
| Thermal Resistance,<br>Junction-to-Ambient                                                                         | $R_{\theta JA}$ | 625         | $^\circ\text{C/W}$         |
| Total Device Dissipation Alumina Substrate (Note 2)<br>$T_A = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$ | $P_D$           | 300<br>2.4  | mW<br>mW/ $^\circ\text{C}$ |
| Thermal Resistance,<br>Junction-to-Ambient                                                                         | $R_{\theta JA}$ | 417         | $^\circ\text{C/W}$         |
| 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.

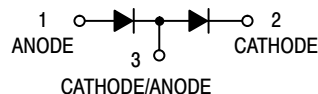


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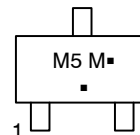
<http://onsemi.com>



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<br>( $I_F = 10\text{ mA}$ )                                             | $V_F$  | –      | 0.60       | V             |
| Reverse Voltage Leakage Current<br>( $V_R = 3.0\text{ V}$ )<br>( $V_R = 7.0\text{ V}$ ) | $I_R$  | –<br>– | 0.25<br>10 | $\mu\text{A}$ |
| Capacitance<br>( $V_R = 0\text{ V}$ , $f = 1.0\text{ MHz}$ )                            | C      | –      | 1.0        | pF            |

## TYPICAL CHARACTERISTICS

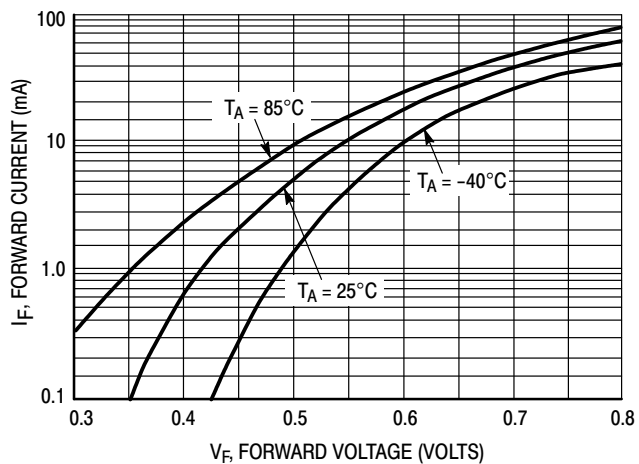


Figure 1. Forward Voltage

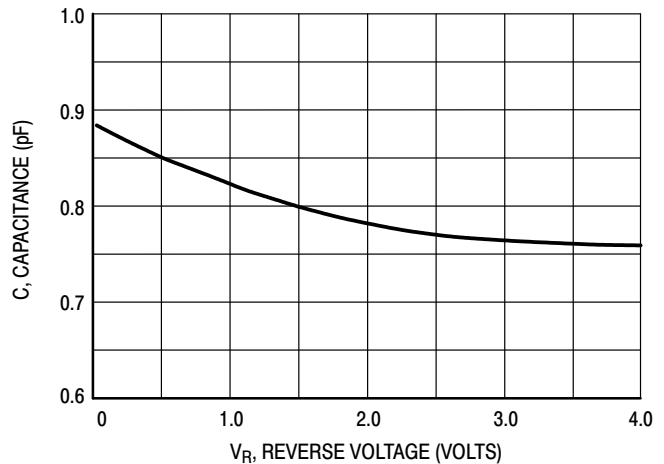


Figure 2. Capacitance

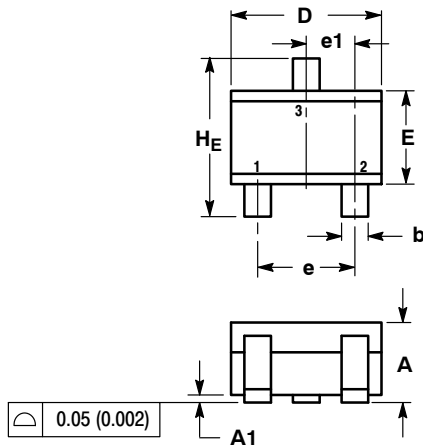
# MMBD352WT1G, NSVMMBD352WT1G

## PACKAGE DIMENSIONS

SC-70 (SOT-323)

CASE 419-04

ISSUE N



### NOTES:

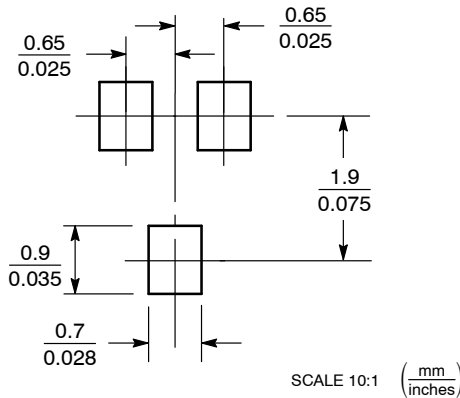
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| 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 |
| Hf  | 2.00        | 2.10 | 2.40 | 0.079     | 0.083 | 0.095 |

### STYLE 9:

- PIN 1: ANODE
- CATHODE
- 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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MMBD352WT1/D



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Электрон  
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**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331