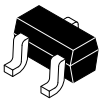
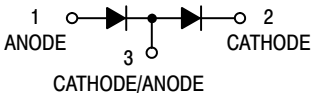
# Dual Schottky Barrier Diode

# MMBD352WT1G, NSVMMBD352WT1G

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



**SOT−323 (SC−70)**
**CASE 419**
**STYLE 9**




### 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

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

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.

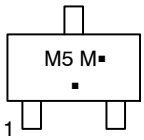
### THERMAL CHARACTERISTICS

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

1. FR−5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

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

### 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 Specification Brochure, BRD8011/D.

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

| Symbol | Characteristic | Min | Max | Unit |
|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | |
| $V_F$ | Forward Voltage<br>($I_F$ = 10 mAdc) | – | 0.60 | V |
| $I_R$ | Reverse Voltage Leakage Current<br>($V_R$ = 3.0 V)<br>($V_R$ = 7.0 V) | –<br>– | 0.25<br>10 | μA |
| C | Capacitance<br>($V_R$ = 0 V, f = 1.0 MHz) | – | 1.0 | pF |

## TYPICAL CHARACTERISTICS

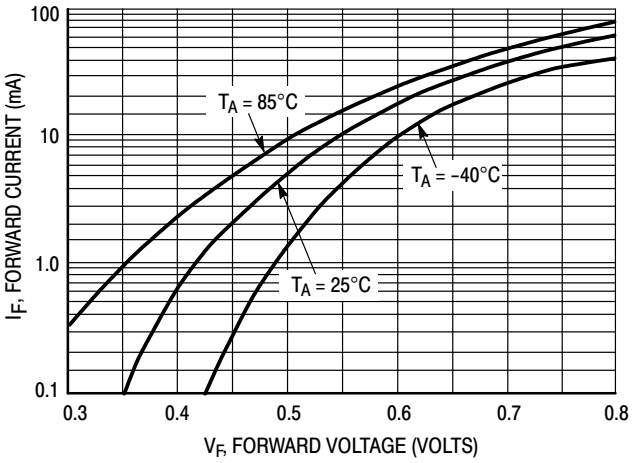



**Figure 1. Forward Voltage**

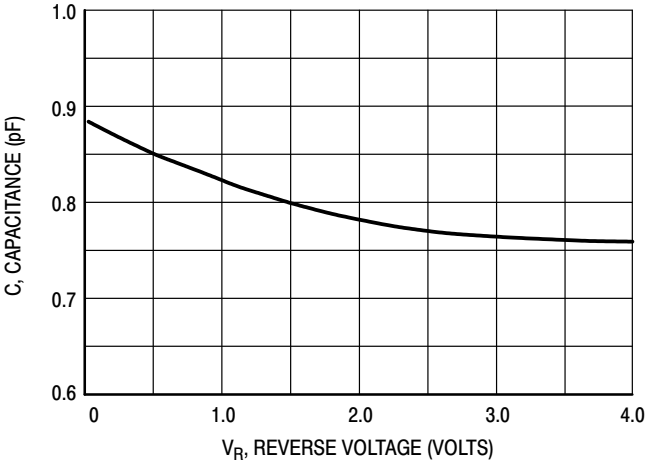
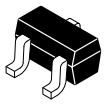


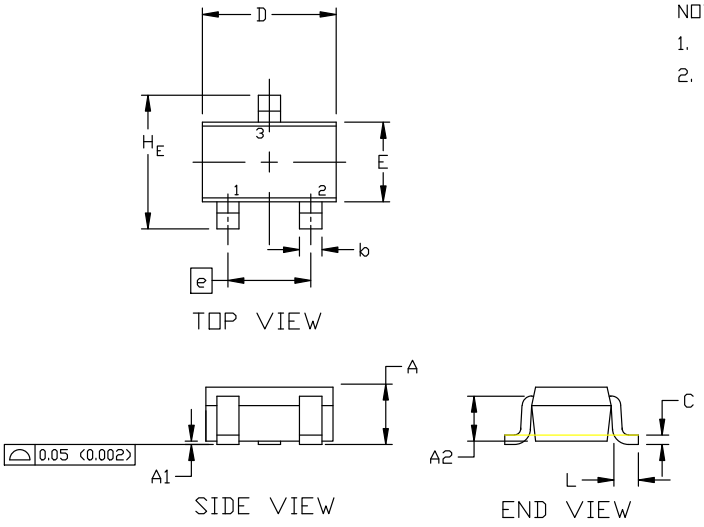

**Figure 2. Capacitance**



**SCALE 4:1**

**SC−70 (SOT−323)**
CASE 419
ISSUE R

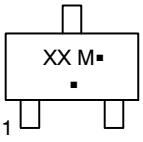
DATE 11 OCT 2022




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

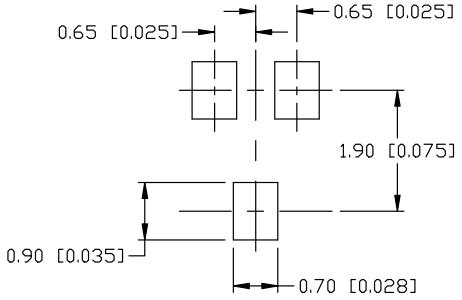
| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | MIN. | NOM. | MAX. | MIN. | NOM. | MAX. |
| A | 0.80 | 0.90 | 1.00 | 0.032 | 0.035 | 0.040 |
| A1 | 0.00 | 0.05 | 0.10 | 0.000 | 0.002 | 0.004 |
| A2 | 0.70 REF | | | 0.028 BSC | | |
| b | 0.30 | 0.35 | 0.40 | 0.012 | 0.014 | 0.016 |
| c | 0.10 | 0.18 | 0.25 | 0.004 | 0.007 | 0.010 |
| D | 1.80 | 2.00 | 2.20 | 0.071 | 0.080 | 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 |
| $H_E$ | 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. Some products may not follow the Generic Marking.




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

SOLDERING FOOTPRINT

STYLE 1:
CANCELLED

STYLE 2:
PIN 1. ANODE
2. N.C.
3. CATHODE

STYLE 3:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 6:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 7:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 8:
PIN 1. GATE
2. SOURCE
3. DRAIN

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

STYLE 10:
PIN 1. CATHODE
2. ANODE
3. ANODE−CATHODE

STYLE 11:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

| | | | |
|---|---|---|---|
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| **DESCRIPTION:** | **SC−70 (SOT−323)** | | **PAGE 1 OF 1** |

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