

MMBV3700LT1

High Voltage Silicon Pin Diodes

These devices are designed primarily for VHF band switching applications but are also suitable for use in general-purpose switching circuits. They are supplied in a cost-effective plastic package for economical, high-volume consumer and industrial requirements. They are also available in surface mount.

Features

- Long Reverse Recovery Time $t_{rr} = 300$ ns (Typ)
- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Series Resistance @ 100 MHz -
 $R_S = 0.7 \Omega$ (Typ) @ $I_F = 10$ mA
- Reverse Breakdown Voltage = 200 V (Min)
- Pb-Free Packages are Available

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|-----------|--------------|----------------------------|
| Reverse Voltage | V_R | 200 | V |
| Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 200 2.8 | mW mW/ $^\circ\text{C}$ |
| Junction Temperature | T_J | +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to +150 | $^\circ\text{C}$ |

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.



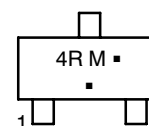
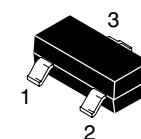
ON Semiconductor®

<http://onsemi.com>

SOT-23



MARKING DIAGRAM



SOT-23 (TO-236AB) CASE 318-08 STYLE 8

4R = Specific Device Code
M = Date Code*
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

| Device | Package | Shipping† |
|--------------|---------------------|------------------|
| MMBV3700LT1 | SOT-23 | 3000/Tape & Reel |
| MMBV3700LT1G | SOT-23 (Pb-Free) | 3000/Tape & Reel |

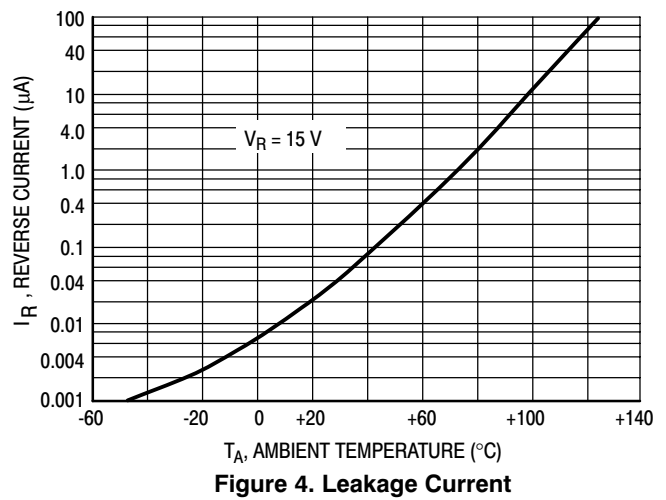
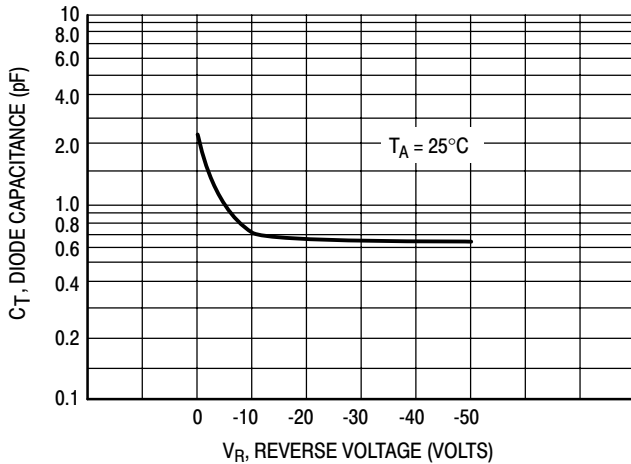
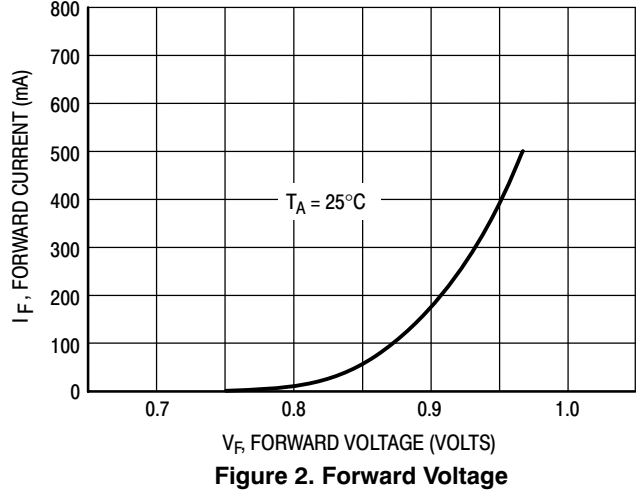
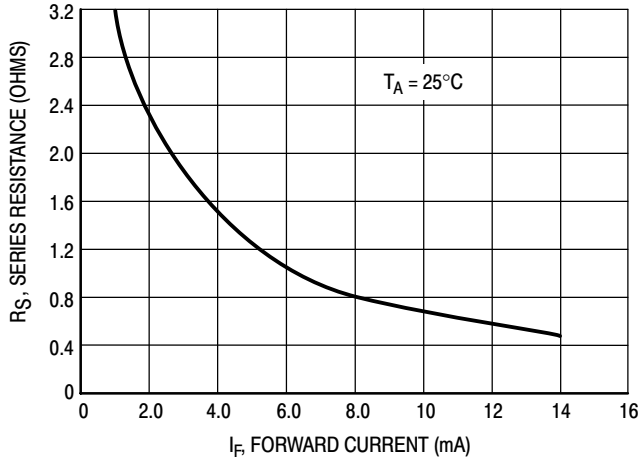
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

MMBV3700LT1

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

| Characteristic | Symbol | Min | Typ | Max | Unit |
|--|-------------|-----|-----|-----|---------------|
| Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$) | $V_{(BR)R}$ | 200 | - | - | V |
| Diode Capacitance ($V_R = 20 \text{V}$, $f = 1.0 \text{MHz}$) | C_T | - | - | 1.0 | pF |
| Series Resistance (Figure 5) ($I_F = 10 \text{mA}$) | R_S | - | 0.7 | 1.0 | Ω |
| Reverse Leakage Current ($V_R = 150 \text{V}$) | I_R | - | - | 0.1 | μA |
| Reverse Recovery Time ($I_F = I_R = 10 \text{mA}$) | t_{rr} | - | 300 | - | ns |

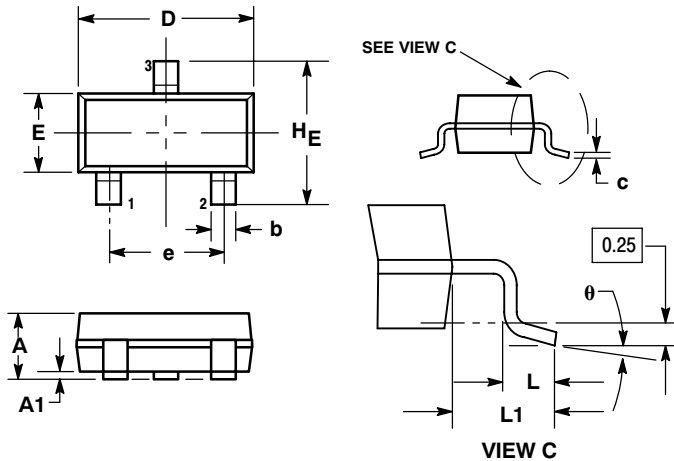
TYPICAL CHARACTERISTICS



MMBV3700LT1

PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AN



NOTES:

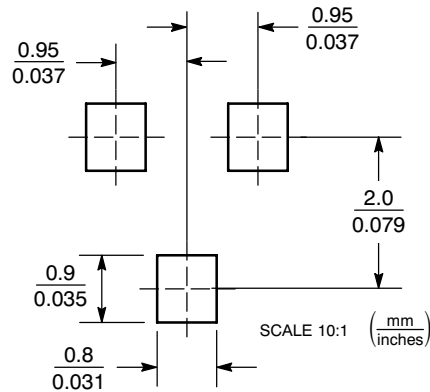
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.040 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.018 | 0.020 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.90 | 3.04 | 0.110 | 0.114 | 0.120 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.90 | 2.04 | 0.070 | 0.075 | 0.081 |
| L | 0.10 | 0.20 | 0.30 | 0.004 | 0.008 | 0.012 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |

STYLE 8:

1. ANODE
2. NO CONNECTION
3. CATHODE

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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