Preferred Device

# Silicon Pin Diode

This device is designed primarily for VHF band switching applications but is also suitable for use in general-purpose switching circuits. Supplied in a Surface Mount package.

### Features

- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Capacitance 0.7 pF (Typ) at  $V_R = 20$  Vdc
- Very Low Series Resistance at 100 MHz  $0.34 \ \Omega$  (Typ) @ I<sub>F</sub> = 10 mAdc
- Pb-Free Packages are Available



# ON Semiconductor<sup>®</sup>

http://onsemi.com

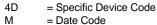




SOT-23 (TO-236AB) CASE 318-08 STYLE 8

#### **MARKING DIAGRAM**





= Date Code

= Pb-Free Package

#### **ORDERING INFORMATION**

| Device       | Package             | Shipping <sup>†</sup> |
|--------------|---------------------|-----------------------|
| MMBV3401LT1  | SOT-23              | 3000 Tape & Reel      |
| MMBV3401LT1G | SOT-23<br>(Pb-Free) | 3000 Tape & Reel      |
| MMBV3401LT3  | SOT-23              | 10,000 Tape & Reel    |
| MMBV3401LT3G | SOT-23<br>(Pb-Free) | 10,000 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.

Preferred devices are recommended choices for future use and best overall value.

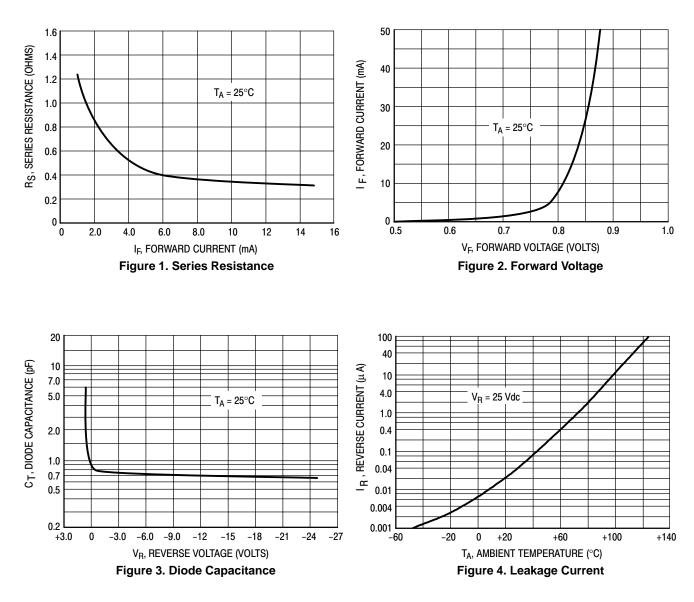
## MAXIMUM RATINGS

| Rating  | Symbol           | Value       | Unit        |
|---|------------------|-------------|-------------|
| Reverse Voltage   | V <sub>R</sub>   | 35          | Vdc         |
| Forward Power Dissipation<br>@ T <sub>A</sub> = 25°C<br>Derate above 25°C | P <sub>D</sub>   | 200<br>2.0  | mW<br>mW/°C |
| Junction Temperature  | TJ               | +125        | °C          |
| Storage Temperature Range   | T <sub>stg</sub> | -55 to +150 | °C          |

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.

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

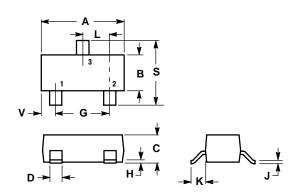
| Characteristic  | Symbol             | Min | Тур | Max | Unit |
|---|--------------------|-----|-----|-----|------|
| Reverse Breakdown Voltage<br>(I <sub>R</sub> = 10 μAdc)                 | V <sub>(BR)R</sub> | 35  | -   | -   | Vdc  |
| Diode Capacitance<br>(V <sub>R</sub> = 20 Vdc)                          | CT                 | -   | -   | 1.0 | pF   |
| Series Resistance (Figure 1)<br>(I <sub>F</sub> = 10 mAdc, f = 100 MHz) | R <sub>S</sub>     | -   | -   | 0.7 | Ω    |
| Reverse Leakage Current $(V_R = 25 \text{ Vdc})$                        | I <sub>R</sub>     | -   | -   | 0.1 | μAdc |



## **TYPICAL CHARACTERISTICS**

#### PACKAGE DIMENSIONS

SOT-23 (TO-236AB) CASE 318-08 **ISSUE AH** 



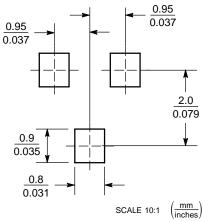
- NOTES: 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. 2. CONTROLLING DIMENSION: INCH. 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL. 4. 318–01 THRU –07 AND –09 OBSOLETE, NEW STANDARD 318–08.

|     | INCHES |        | MILLIN | IETERS |  |
|-----|--------|--------|--------|--------|--|
| DIM | MIN    | MAX    | MIN    | MAX    |  |
| Α   | 0.1102 | 0.1197 | 2.80   | 3.04   |  |
| В   | 0.0472 | 0.0551 | 1.20   | 1.40   |  |
| С   | 0.0350 | 0.0440 | 0.89   | 1.11   |  |
| D   | 0.0150 | 0.0200 | 0.37   | 0.50   |  |
| G   | 0.0701 | 0.0807 | 1.78   | 2.04   |  |
| н   | 0.0005 | 0.0040 | 0.013  | 0.100  |  |
| J   | 0.0034 | 0.0070 | 0.085  | 0.177  |  |
| ĸ   | 0.0140 | 0.0285 | 0.35   | 0.69   |  |
| L   | 0.0350 | 0.0401 | 0.89   | 1.02   |  |
| s   | 0.0830 | 0.1039 | 2.10   | 2.64   |  |
| v   | 0.0177 | 0.0236 | 0.45   | 0.60   |  |

STYLE 8: PIN 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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