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# MMBV3700LT1G

# 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<sub>rr</sub> = 300 ns (Typ)
- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Series Resistance @ 100 MHz  $R_S = 0.7 \Omega$  (Typ) @  $I_F = 10 \text{ mA}$
- Reverse Breakdown Voltage = 200 V (Min)
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

#### **MAXIMUM RATINGS**

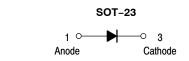
Rating	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	200	V
Forward Power Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	200 2.8	mW mW/°C
Junction Temperature	TJ	+125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

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



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 <sup>†</sup>
MMBV3700LT1G	SOT-23 (Pb-Free)	3000/Tape & Reel

<sup>†</sup>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.

# MMBV3700LT1G

# **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise noted)

Figure 3. Diode Capacitance

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage (I <sub>R</sub> = 10 μA)	V <sub>(BR)R</sub>	200	-	-	V
Diode Capacitance (V <sub>R</sub> = 20 V, f = 1.0 MHz)	C <sub>T</sub>	-	-	1.0	pF
Series Resistance (Figure 5) (I <sub>F</sub> = 10 mA)	R <sub>S</sub>	_	0.7	1.0	Ω
Reverse Leakage Current (V <sub>R</sub> = 150 V)	I <sub>R</sub>	_	_	0.1	μΑ
Reverse Recovery Time (I <sub>F</sub> = I <sub>R</sub> = 10 mA)	t <sub>rr</sub>	-	300	-	ns

# **TYPICAL CHARACTERISTICS**

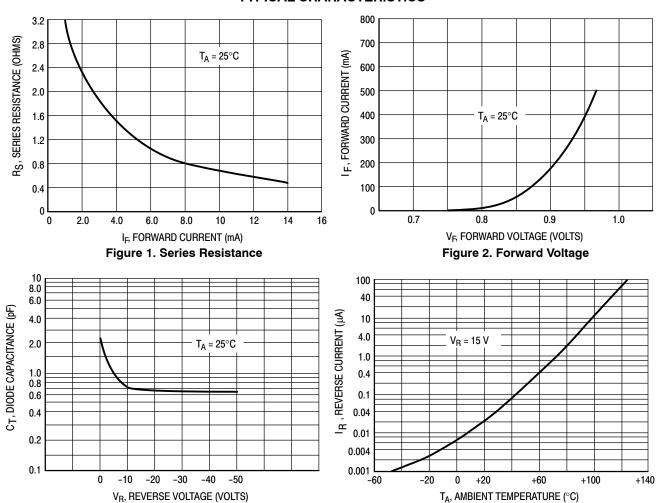
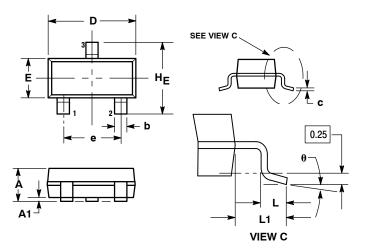


Figure 4. Leakage Current

## MMBV3700LT1G

# PACKAGE DIMENSIONS

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



#### NOTES:

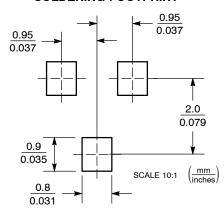
- 1. DIMENSIONING AND TOLERANCING PER ANSI Y14 5M 1982
- CONTROLLING DIMENSION: INCH.
- MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

		MILLIMETERS					
L	DIM	MIN	NOM	MAX	MIN	NOM	MAX
	Α	0.89	1.00	1.11	0.035	0.040	0.044
	<b>A</b> 1	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
	С	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
	Е	1.20	1.30	1.40	0.047	0.051	0.055
	е	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
[	ΗE	2.10	2.40	2.64	0.083	0.094	0.104

#### STYLE 8:

- PIN 1. ANODE 2. NO CONNECTION
  - 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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