# MMBV432LT1

Preferred Device

# **Silicon Tuning Diode**

This device is designed for FM tuning, general frequency control and tuning, or any top-of-the-line application requiring back-to-back diode configuration for minimum signal distortion and detuning. This device is supplied in the SOT-23 plastic package for high volume, pick and place assembly requirements.

### Features

- High Figure of Merit Q = 150 (Typ) @  $V_R = 2.0$  Vdc, f = 100 MHz
- Guaranteed Capacitance Range
- Dual Diodes Save Space and Reduce Cost
- Surface Mount Package
- Available in 8 mm Tape and Reel
- Monolithic Chip Provides Improved Matching Guaranteed ±1.0% (Max) Over Specified Tuning Range
- Pb–Free Package is Available

### MAXIMUM RATINGS (Each Diode)

Rating	Symbol	Value	Unit	
Reverse Voltage	V <sub>R</sub>	14	Vdc	
Forward Current	١ <sub>F</sub>	200	mAdc	
Total Power Dissipation @ $T_A = 25^{\circ}C$ Derate above 25°C	PD	225 1.8	mW mW/°C	
Junction Temperature	TJ	+125	°C	
Storage Temperature Range	T <sub>stg</sub>	-55 to +125	°C	

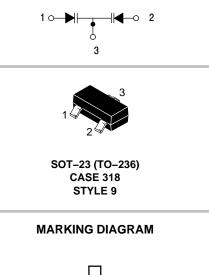
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



## **ON Semiconductor®**

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# DUAL VOLTAGE VARIABLE CAPACITANCE DIODE





M4B = 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>		
MMBV432LT1	SOT-23	3,000 / Tape & Reel		
MMBV432LT1G	SOT-23 (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.

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

# MMBV432LT1

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

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage (I <sub>R</sub> = 10 μAdc)	V <sub>(BR)R</sub>	14	-	-	Vdc
Reverse Voltage Leakage Current (V <sub>R</sub> = 9.0 Vdc)	I <sub>R</sub>	-	-	100	nAdc
Diode Capacitance ( $V_R = 2.0 \text{ Vdc}, f = 1.0 \text{ MHz}$ )	CT	43	-	48.1	pF
Capacitance Ratio C2/C8 (f = 1.0 MHz)	C <sub>R</sub>	1.5	-	2.0	-
Figure of Merit (V <sub>R</sub> = 2.0 Vdc, f = 100 MHz)	Q	100	150	-	-

## MMBV432LT1

## **TYPICAL CHARACTERISTICS (Each Diode)**

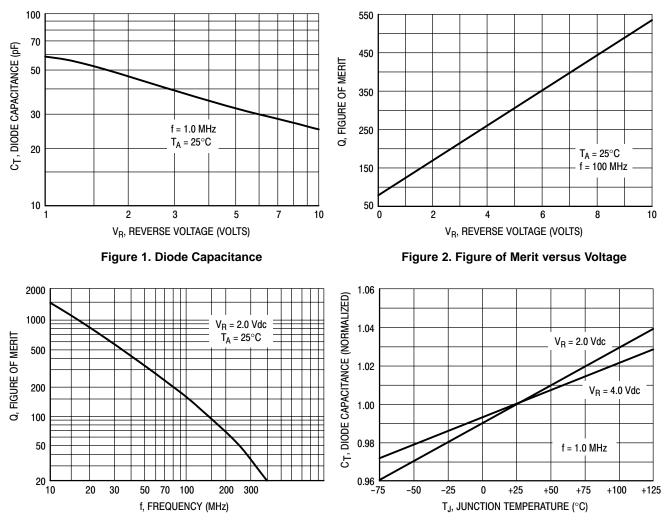


Figure 3. Figure of Merit versus Frequency

Figure 4. Diode Capacitance versus Temperature

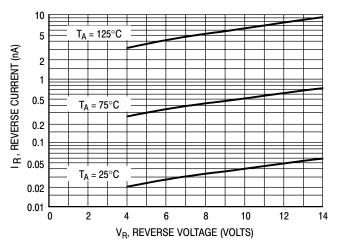


Figure 5. Reverse Current versus Reverse Voltage

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