# 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 | $V_R$ | 14 | Vdc |
| Forward Current | $I_F$ | 200 | mAdc |
| Total Power Dissipation @ $T_A$ = 25°C<br>Derate above 25°C | $P_D$ | 225<br>1.8 | mW<br>mW/°C |
| Junction Temperature | $T_J$ | +125 | °C |
| Storage Temperature Range | $T_{stg}$ | −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.

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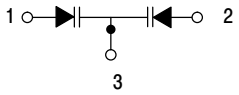
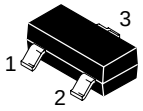
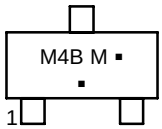
## DUAL VOLTAGE VARIABLE CAPACITANCE DIODE




**SOT−23 (TO−236)**
**CASE 318**
**STYLE 9**

**MARKING DIAGRAM**




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† |
|---|---|---|
| MMBV432LT1 | SOT−23 | 3,000 / Tape & Reel |
| MMBV432LT1G | SOT−23<br>(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.

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

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Reverse Breakdown Voltage ($I_R$ = 10 μAdc) | $V_{(BR)R}$ | 14 | – | – | Vdc |
| Reverse Voltage Leakage Current ($V_R$ = 9.0 Vdc) | $I_R$ | – | – | 100 | nAdc |
| Diode Capacitance ($V_R$ = 2.0 Vdc, f = 1.0 MHz) | $C_T$ | 43 | – | 48.1 | pF |
| Capacitance Ratio C2/C8 (f = 1.0 MHz) | $C_R$ | 1.5 | – | 2.0 | – |
| Figure of Merit ($V_R$ = 2.0 Vdc, f = 100 MHz) | Q | 100 | 150 | – | – |

## TYPICAL CHARACTERISTICS (Each Diode)

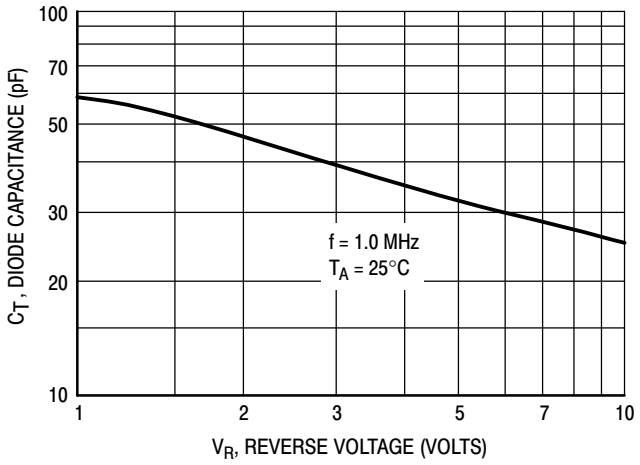


**Figure 1. Diode Capacitance**

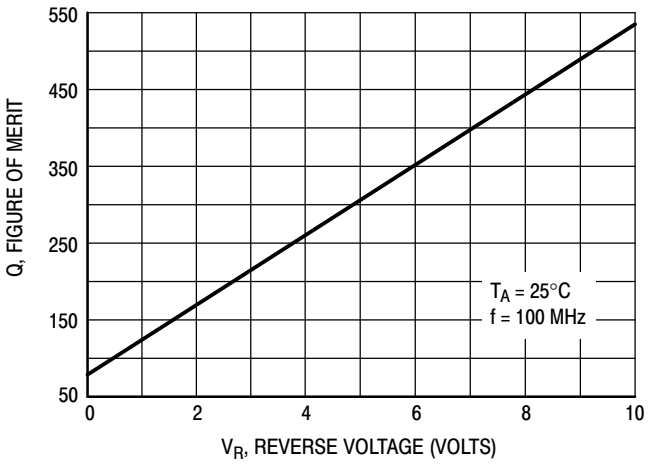


**Figure 2. Figure of Merit versus Voltage**

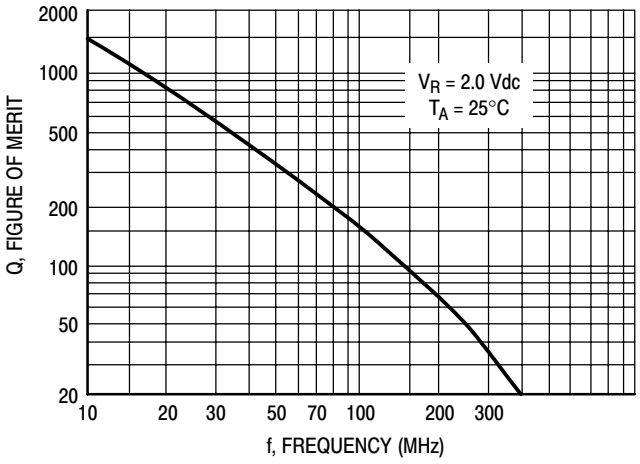


**Figure 3. Figure of Merit versus Frequency**

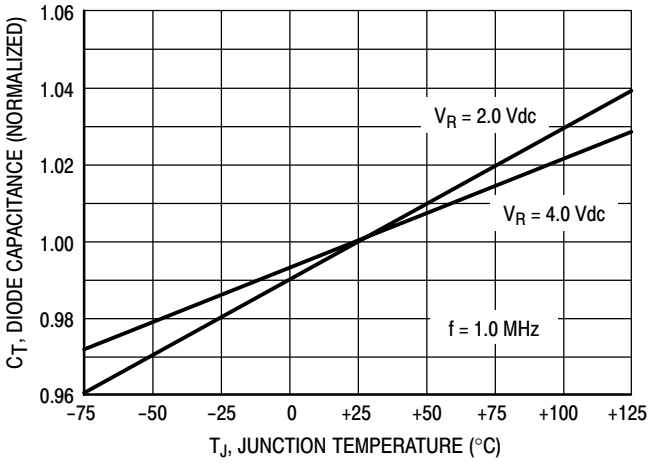


**Figure 4. Diode Capacitance versus Temperature**

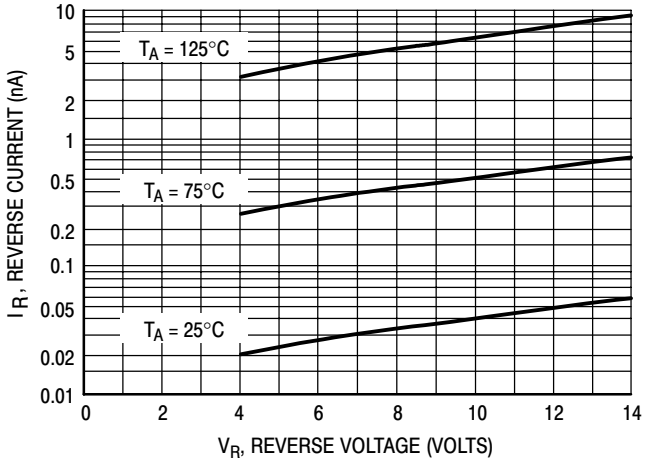


**Figure 5. Reverse Current versus Reverse Voltage**

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