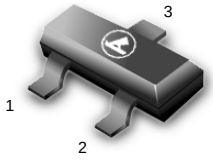
Silicon Tuning Diode

MMBV432LT1

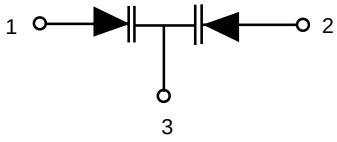
DUAL VOLTAGE VARIABLE CAPACITANCE DIODE

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.

- 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



CASE 318–08, STYLE 9
SOT– 23 (TO–236AB)



MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	14	Vdc
Forward Current	I_F	200	mAdc
Device Dissipation @T_A = 25°C	P_D	225	mW
Derate above 25°C		1.8	mW/℃
Junction Temperature	T_J	+125	℃
Storage Temperature Range	T_{stg}	–55 to +125	℃

DEVICE MARKING

MMBV432LT1=M4B

ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

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

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TYPICAL CHARACTERISTICS

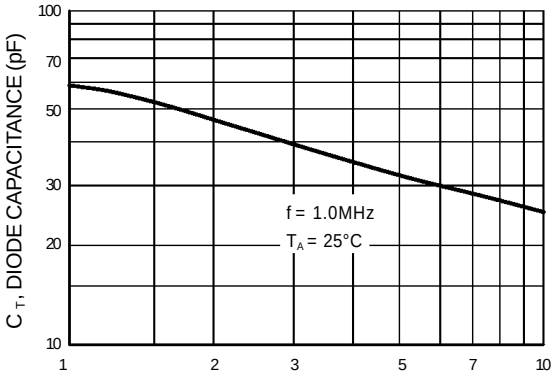

Figure 1. Diode Capacitance

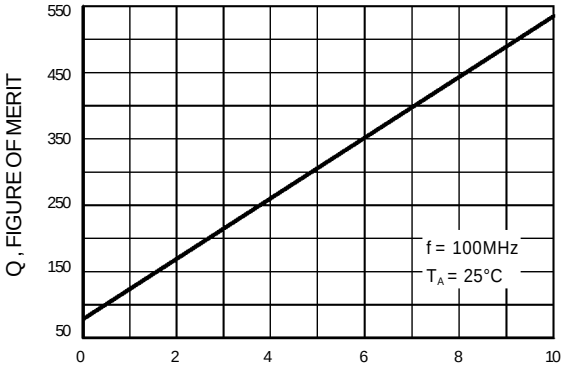

Figure 2. Figure of Merit versus Voltage

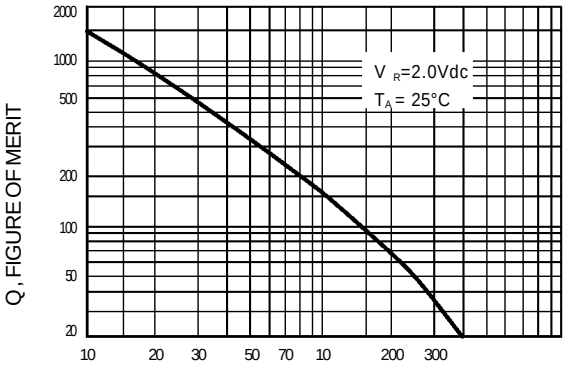

Figure 3. Figure of Merit versus Frequency

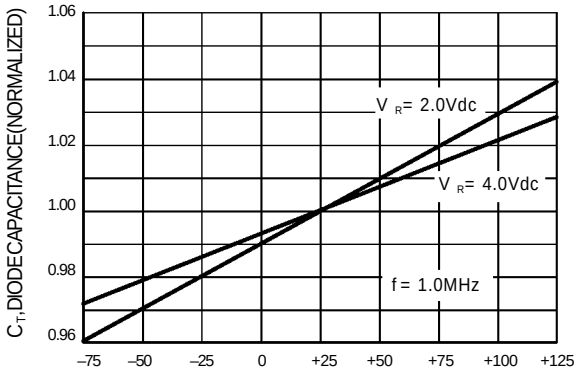

Figure 4. Diode Capacitance versus Temperature

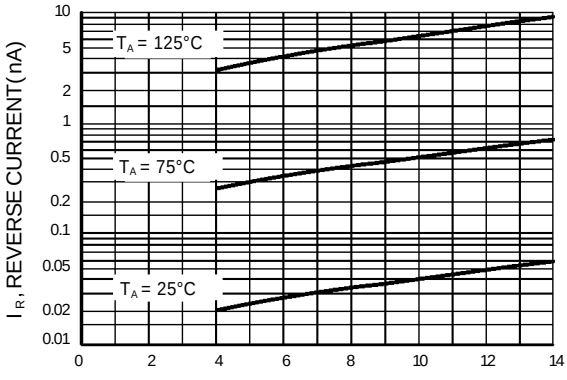

Figure 5. Reverse Current versus Reverse Voltage