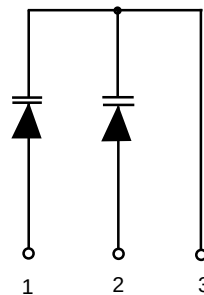


Silicon Tuning Diode

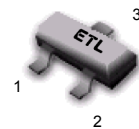
This device is designed for FM tuning, general frequency control and tuning, or any top-of-the-line application requiring back-to-back diode configuration for minimum signal distortion and detuning. This device is supplied in the SOT-23 plastic package for high volume, pick and place assembly requirements.

- High Figure of Merit — $Q = 450$ (Typ) @ $V_R = 3.0$ Vdc, $f = 50$ 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
- Hyper Abrupt Junction Process Provides High Tuning Ratio



MMBV609LT1

**DUAL
VOLTAGE VARIABLE
CAPACITANCE DIODE**



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

MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Vdc
Forward Current	I_F	100	mAdc
Device Dissipation @ $T_A = 25^\circ\text{C}$	P_D	225	mW
Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Junction Temperature	T_J	+125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

DEVICE MARKING

MMBV609LT1=5L

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R=10\mu\text{Adc}$)	$V_{(BR)R}$	20	—	—	Vdc
Reverse Voltage Leakage Current ($V_R=15\text{Vdc}$)	I_R	—	—	10	nAdc
Diode Capacitance ($V_R=3.0$ Vdc, $f=1.0\text{MHz}$)	C_T	26	—	32	pF
Capacitance Ratio C3/C8 ($f=1.0\text{MHz}$)	C_R	1.8	—	2.4	—
Figure of Merit ($V_R=3.0$ Vdc, $f=50\text{MHz}$)	Q	250	450	—	—

MMBV609LT1

TYPICAL CHARACTERISTICS

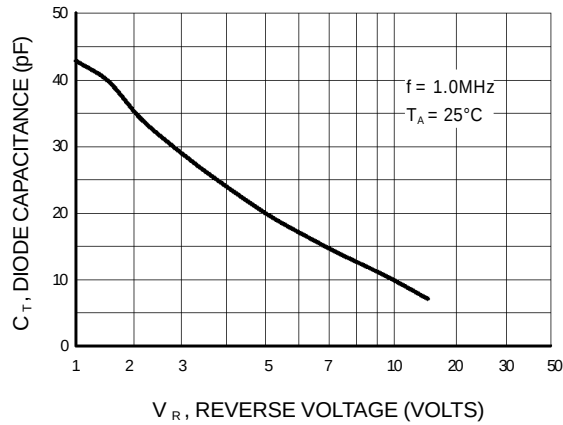


Figure 1. Diode Capacitance

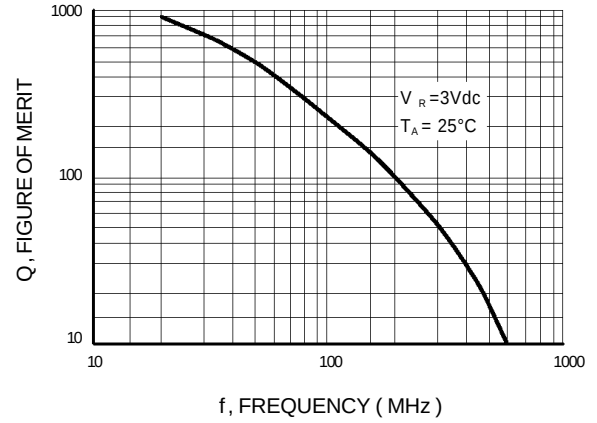


Figure 2. Figure of Merit

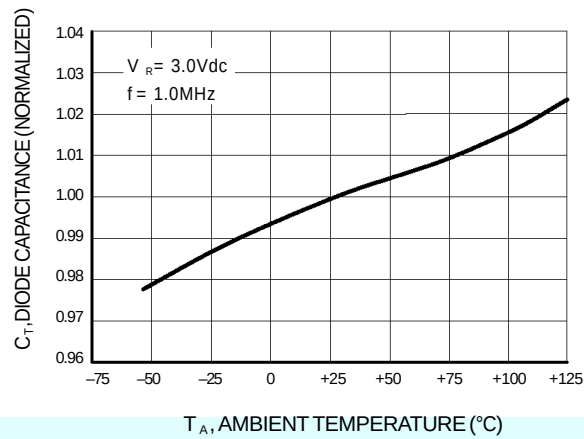


Figure 3. Diode Capacitance