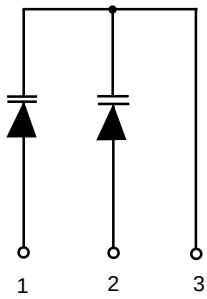
Silicon Tuning Diode

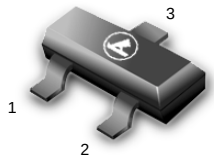
MMBV609LT1

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 = 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





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°C	P_D	225	mW
Derate above 25°C		1.8	mW/°C
Junction Temperature	T_J	+125	°C
Storage Temperature Range	T_{stg}	–55 to +150	°C

DEVICE MARKING

MMBV609LT1=5L

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

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

MMBV609LT1

TYPICAL CHARACTERISTICS

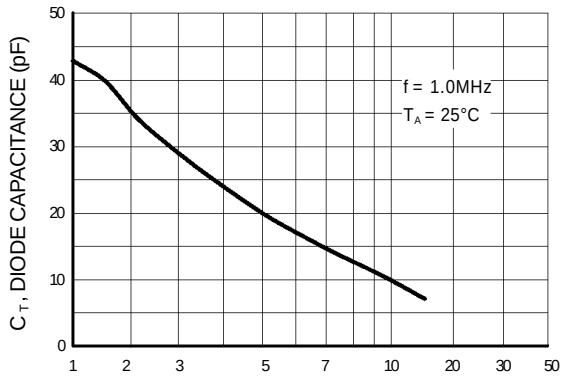


Figure 1. Diode Capacitance

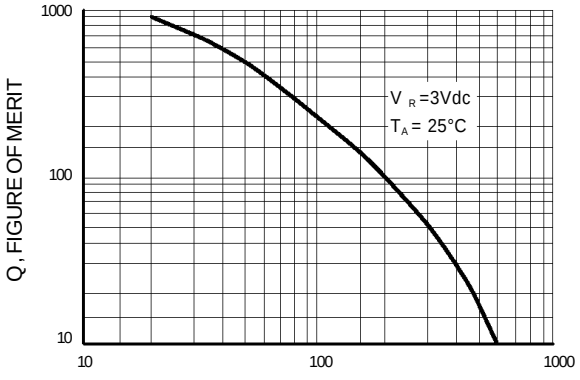


Figure 2. Figure of Merit

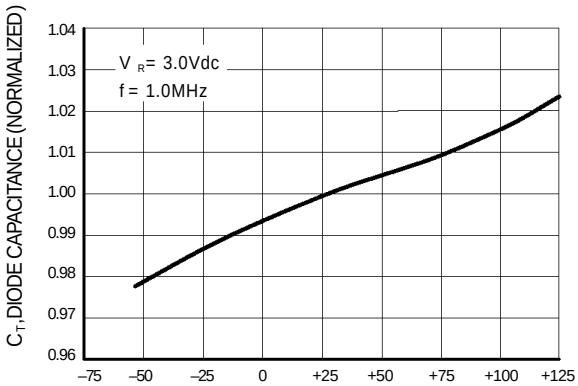


Figure 3. Diode Capacitance