MMBV609LT1G

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 = 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
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Vdc
Forward Current	I_F	100	mAdc
Total Power Dissipation @ T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Junction Temperature	T_J	+125	°C
Storage Temperature Range	T_{stg}	−55 to +125	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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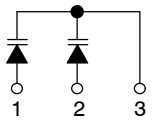
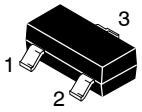
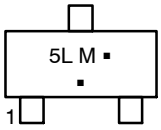
DUAL VOLTAGE VARIABLE CAPACITANCE DIODE





SOT−23 (TO−236)
CASE 318
STYLE 9

MARKING DIAGRAM



5L = 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†
MMBV609LT1G	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.

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

TYPICAL CHARACTERISTICS

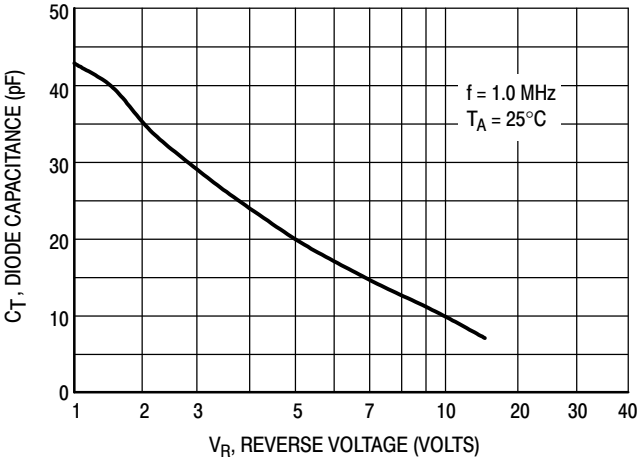

Figure 1. Diode Capacitance

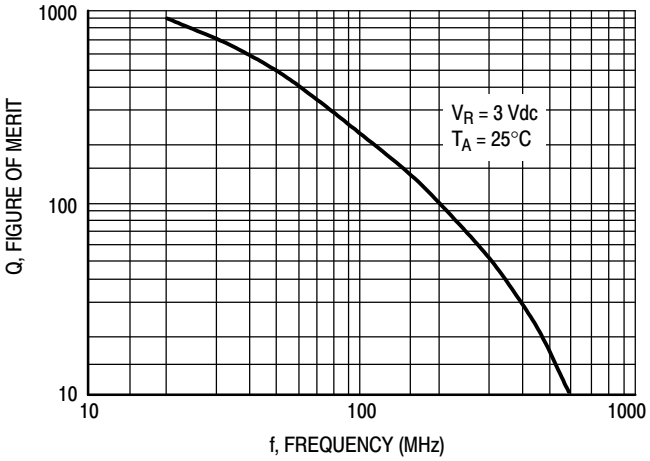

Figure 2. Figure of Merit

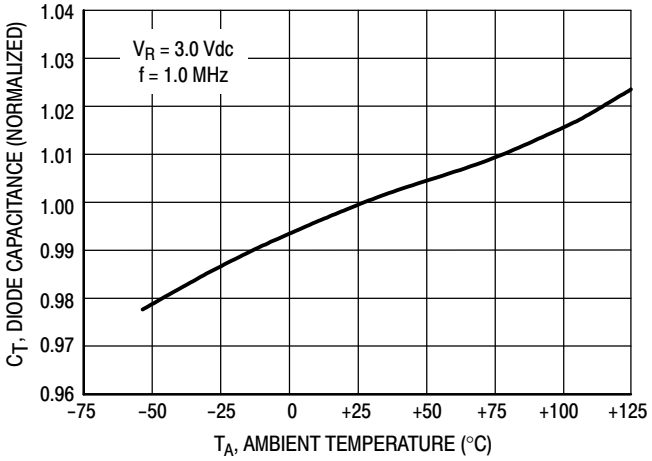

Figure 3. Diode Capacitance

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