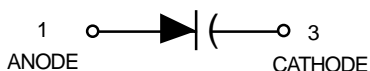


Silicon Tuning Diode

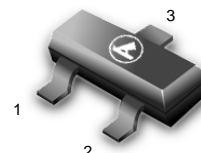
This device is designed for 900 MHz frequency control and tuning applications. It provides solid-state reliability in replacement of mechanical tuning methods.

- Controlled and Uniform Tuning Ratio
- Available in Surface Mount Package
- Available in 8 mm Tape and Reel



MMBV809LT1

4.5-6.1 pF
VOLTAGE VARIABLE
CAPACITANCE DIODES



CASE 318-08, STYLE 8
SOT-23 (TO-236AB)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Vdc
Forward Current	I_F	20	mAdc
Device Dissipation ⁽¹⁾ @ $T_A = 25^\circ\text{C}$	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 +125	°C

DEVICE MARKING

MMBV809LT1=5K

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

Characteristic-All Types	Symbol	Min	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	—	50	nAdc

Device Type	C_T , Diode Capacitance $V_R=2.0\text{Vdc}, f=1.0\text{MHz}$ pF			Q , Figure of Merit $V_R=3.0\text{Vdc}$ $f=500\text{MHz}$	C_R , Capacitance Ratio C_2/C_8 $f=1.0\text{MHz}(2)$	
	Min	Typ	Max	Typ	Min	Max
MMBV809LT1	4.5	5.3	6.1	75	1.8	2.6

1. FR-5 Board 1.0 x 0.75 x 0.62 in.

2. C_R is the ratio of C_i measured at 2.0 Vdc divided by C_i measured at 8.0 vdc

MMBV809LT1

TYPICAL CHARACTERISTICS

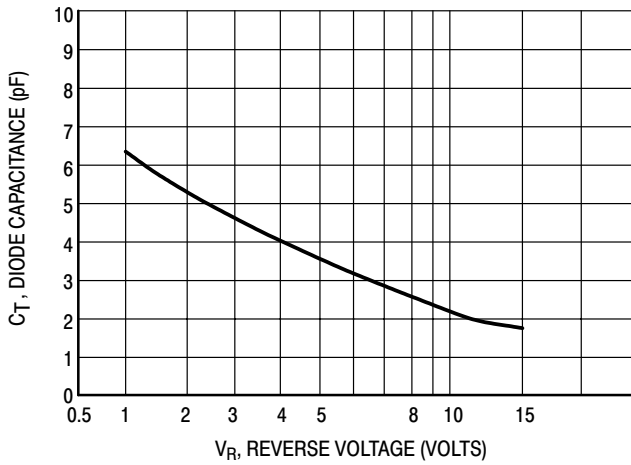


Figure 1. Diode Capacitance

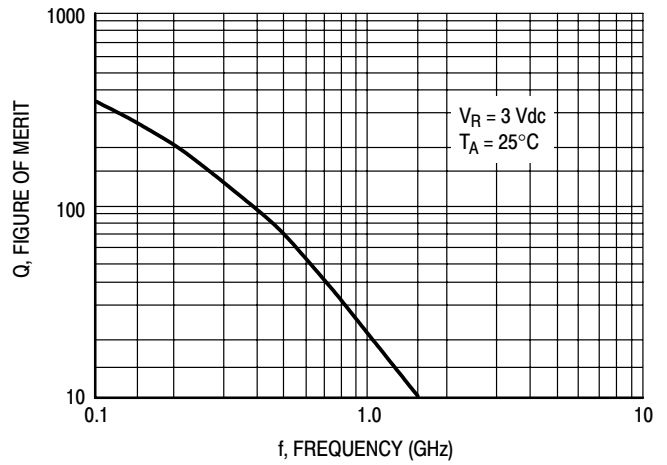


Figure 2. Figure of Merit

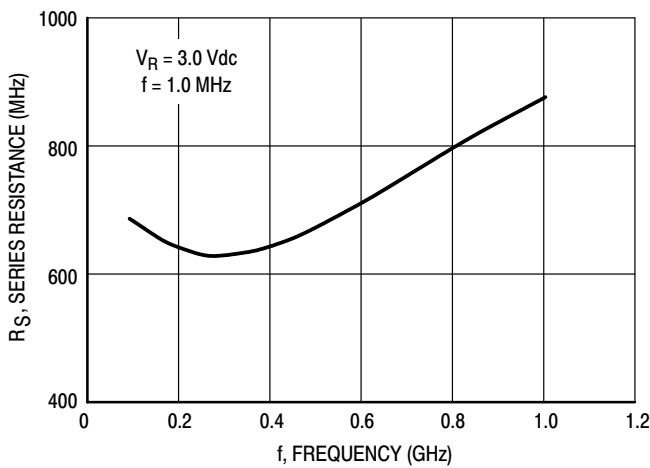


Figure 3. Series Resistance

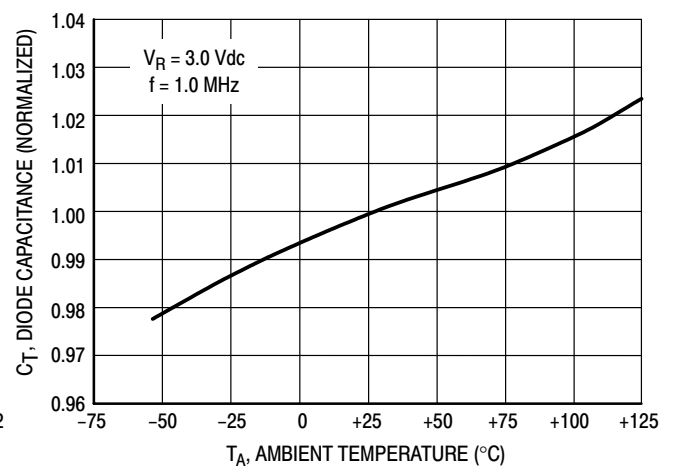


Figure 4. Diode Capacitance