

Silicon Tuning Diode

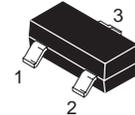
This device is designed in the Surface Mount package for general frequency control and tuning applications. It provides solid-state reliability in replacement of mechanical tuning methods.

- Controlled and Uniform Tuning Ratio

MMBV105GLT1

Motorola Preferred Device

**30 VOLT
VOLTAGE VARIABLE
CAPACITANCE DIODE**



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



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	Vdc
Forward Current	I_F	200	mAdc
Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW 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

MMBV105GLT1 = M4E

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

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage ($I_R = 10 \mu\text{Adc}$)	$V_{(BR)R}$	30	—	Vdc
Reverse Voltage Leakage Current ($V_R = 28 \text{Vdc}$)	I_R	—	50	nAdc

Device Type	C_T $V_R = 25 \text{Vdc}$, $f = 1.0 \text{MHz}$ pF		Q $V_R = 3.0 \text{Vdc}$ $f = 50 \text{MHz}$	C_R C_3/C_{25} $f = 1.0 \text{MHz}$	
	Min	Max	Typ	Min	Max
MMBV105GLT1	1.5	2.8	250	4.0	6.5

Preferred devices are Motorola recommended choices for future use and best overall value.

TYPICAL CHARACTERISTICS

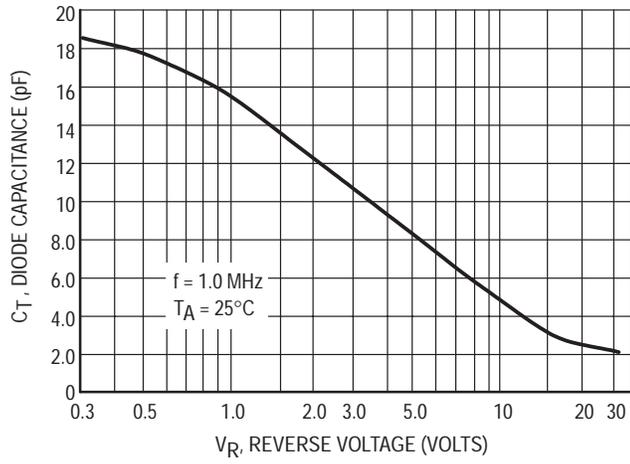


Figure 1. Diode Capacitance

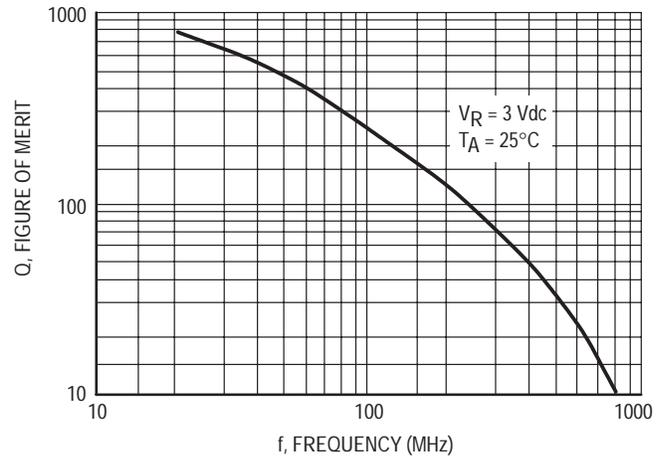


Figure 2. Figure of Merit

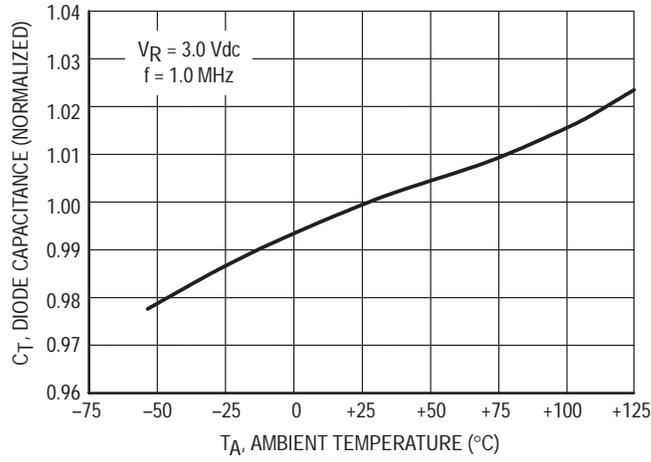


Figure 3. Diode Capacitance