

# 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
- Device Marking: M4E

## MMVL105GT1

**30 VOLT  
VOLTAGEVARIABLE  
CAPACITANCEDIODES**



PLASTIC, CASE 477  
SOD- 323

### ORDERING INFORMATION

Device	Package	Shipping
MMVL105GT1	SOD-323	3000 / Tape & Reel



### MAXIMUM RATINGS

Symbol	Rating	Value	Unit
$V_R$	Continuous Reverse Voltage	30	Vdc
$I_F$	Peak Forward Current	200	mAdc

### THERMAL CHARACTERISTICS

Symbol	Characteristic	Max	Unit
$P_D$	Total Device Dissipation FR-5 Board,*	200	mW
	$T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	1.57	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	635	$^\circ\text{C}/\text{W}$
$T_J, T_{SQ}$	Junction and Storage Temperature	150	$^\circ\text{C}$

\*FR-4 Minimum Pad

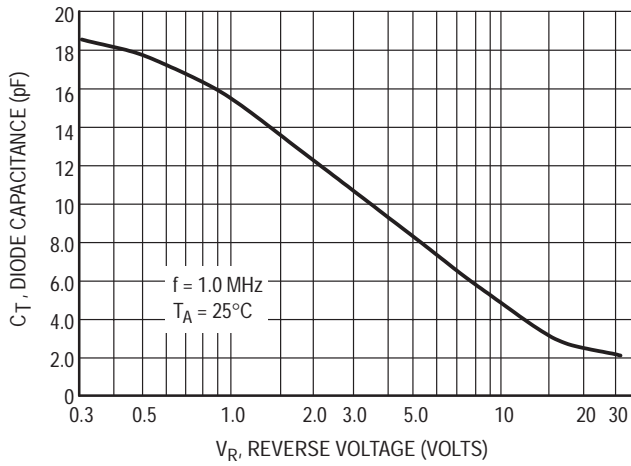
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

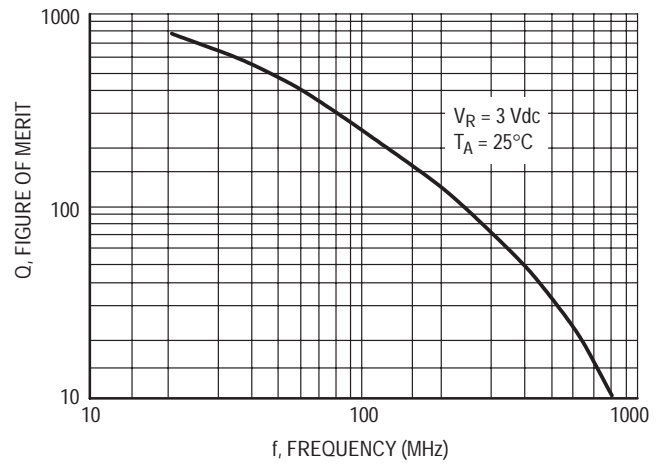
Device Type	$C_t$ $V_R = 25 \text{ Vdc}, f = 1.0 \text{ MHz}$ pF		$Q$ $V_R = 3.0 \text{ Vdc}$ $f = 50 \text{ MHz}$	$C_R, C_3/C_{25}$ $f = 1.0 \text{ MHz}$	
	Min	Max	Typ	Min	Max
MMVL105T1	1.5	2.8	250	4.0	6.5

**MMVL105GT1**

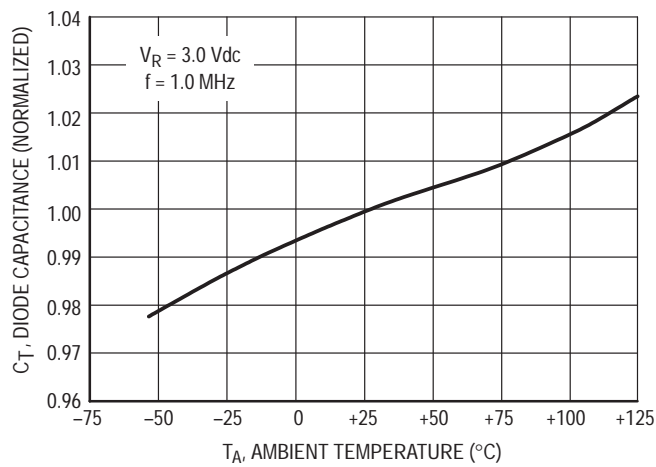
**TYPICAL CHARACTERISTICS**



**Figure 1. Diode Capacitance**



**Figure 2. Figure of Merit**



**Figure 3. Diode Capacitance**