

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.

- High Q with Guaranteed Minimum Values at VHF Frequencies
- Controlled and Uniform Tuning Ratio
- Device Marking: 4C



MMVL3102T1

22 pF (Nominal) 30 VOLTS VOLTAGEVARIABLE CAPACITANCEDIODE



ORDERING INFORMATION

Device	Package	Shipping
MMVL3102T1	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
P₀	Total Device Dissipation FR-5 Board,*	200	mW
	$T_A = 25$ °C		
	Derate above 25°C	1.57	mW/°C
R _{eJA}	Thermal Resistance Junction to Ambient	635	°C/W
T_J,T_stg	Junction and Storage Temperature	150	°C

^{*}FR-4 Minimum Pad

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

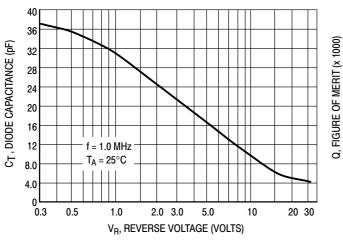
Characteristic	Symbol	Min	Тур	Max	Unit
Reverse BreakdownVoltage	$V_{(BR)R}$	30	_	_	Vdc
$(I_R = 10 \mu Adc)$					
Reverse Voltage Leakage Current	I _R	_	_	0.1	μAdc
$(V_R = 25 \text{ Vdc}, T_A = 25^{\circ}\text{C})$					
Diode Capacitance Temperature Coefficient	TC_{c}	_	300	_	ppm/°C
$(V_R = 4.0 \text{ Vdc}, f = 1.0 \text{ MHz})$					

	C _t , Diode Capacitance V _R = 3.0 Vdc, f = 1.0 MHz pF		Q, Figure of Merit $V_R = 3.0 \text{ Vdc}$	""	itance Ratio /C ₂₅	
			f = 50 MHz	f = 1.0 MHz		
Device	Min	Nom	Max	Min	Min	Max
MMVL3102T1	20	22	25	200	4.5	4.8



MMVL3102T1

TYPICAL CHARACTERISTICS



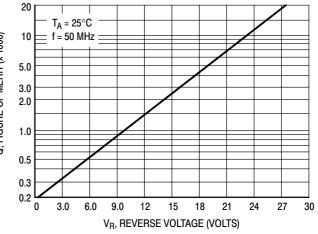
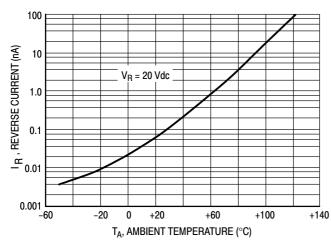


Figure 1. Diode Capacitance

Figure 2. Figure of Merit



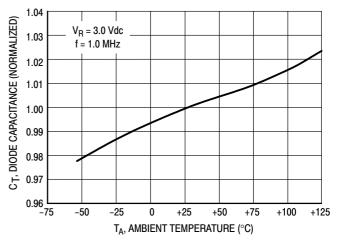


Figure 3. Leakage Current

Figure 4. Diode Capacitance

NOTES ON TESTING AND SPECIFICATIONS

1. C_B is the ratio of C_T measured at 3.0 Vdc divided by C_T measured at 25 Vdc.