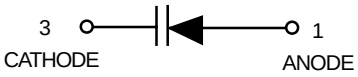
Silicon Tuning Diode

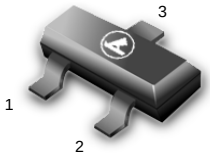
MMBV3102LT1

22 pF(Nominal) 30Volts VOLTAGE VARIABLE CAPACITANCE DIODES

This device is designed in the Surface Mount package for general frequency controland 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





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°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 +150	°C

DEVICE MARKING

MMBV3102LT1= M4C

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R=10μAdc)	$V_{(BR)R}$	30	—	—	Vdc
Reverse Voltage Leakage Current (V_R=15Vdc)	I_R	—	—	0.1	μAdc
Diode Capacitance Temperature Coefficient (V_R=4.0Vdc,f=1.0MHz)	T_{CC}	—	300	—	ppm/°C

	C_TDiode Capacitance V_R=3.0Vdc,f=1.0MHz pF			Q,Figure of Merit V_R=3.0Vdc f=50MHz	C_R,Capacitance Ratio C_3/C_{25} f=1.0MHz	
Device Type	Min	Nom	Max	Min	Min	Typ
MMBV3102LT1	20	22	25	200	4.5	4.8

MMBV3102LT1

TYPICAL CHARACTERISTICS

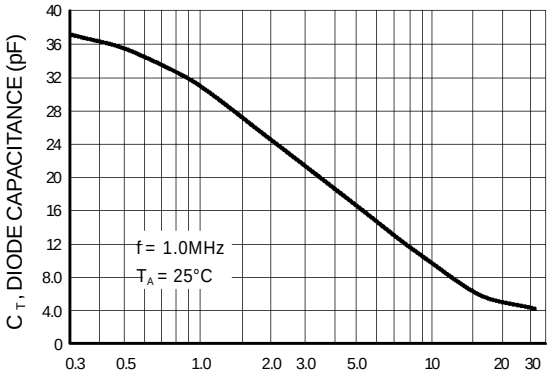


Figure 1. Diode Capacitance

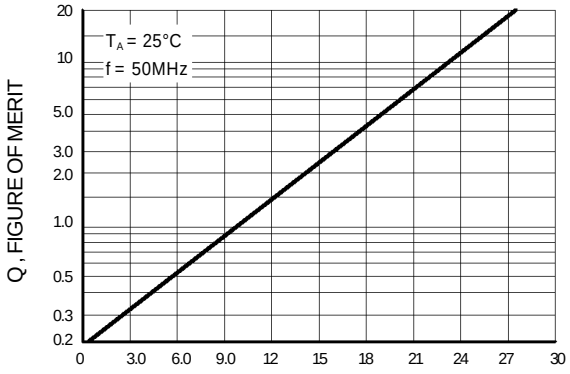


Figure 2. Figure of Merit

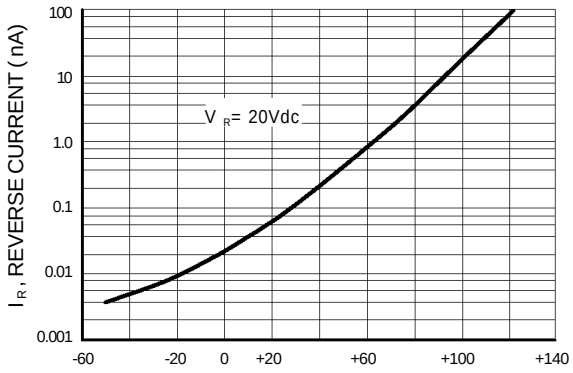


Figure 3. Leakage Current

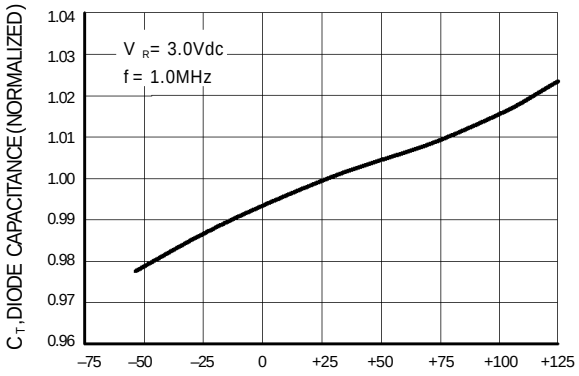


Figure 4. Diode Capacitance

NOTES ON TESTING ANG SPECIFICATIONS

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