

# MMVL105GT1

Preferred Device

## 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: 4E



**ON Semiconductor**

Formerly a Division of Motorola

<http://onsemi.com>

### 30 VOLT VOLTAGE VARIABLE CAPACITANCE DIODE

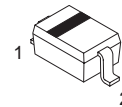
#### MAXIMUM RATINGS

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,* $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	200 1.57	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	635	$^\circ\text{C}/\text{W}$
$T_J, T_{stg}$	Junction and Storage Temperature	150	$^\circ\text{C}$

\*FR-4 Minimum Pad



**PLASTIC  
SOD-323  
CASE 477**



#### ORDERING INFORMATION

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

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

# MMVL105GT1

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

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

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
MMVL105GT1	1.5	2.8	250	4.0	6.5

## TYPICAL CHARACTERISTICS

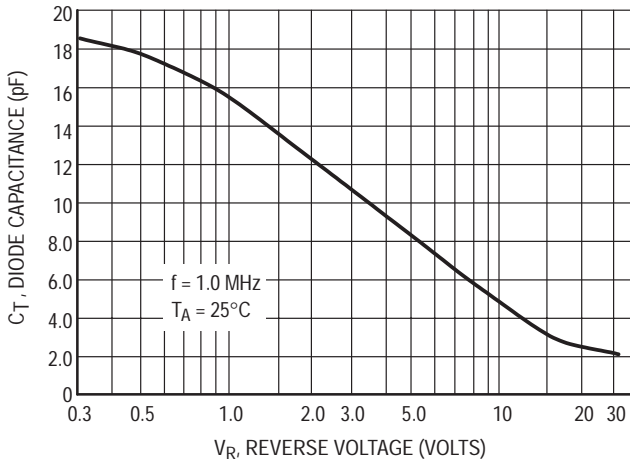


Figure 1. Diode Capacitance

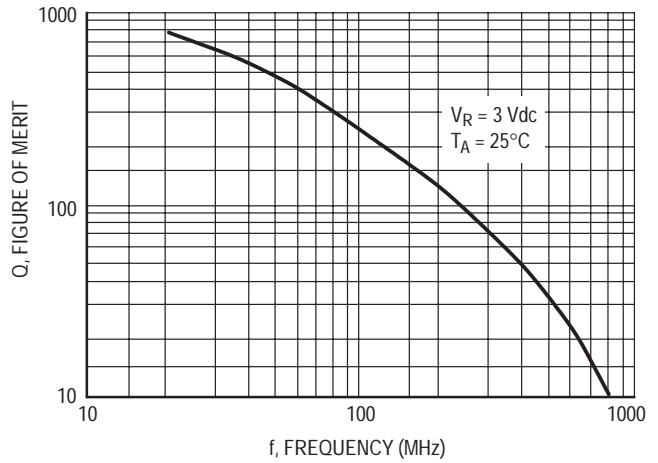


Figure 2. Figure of Merit

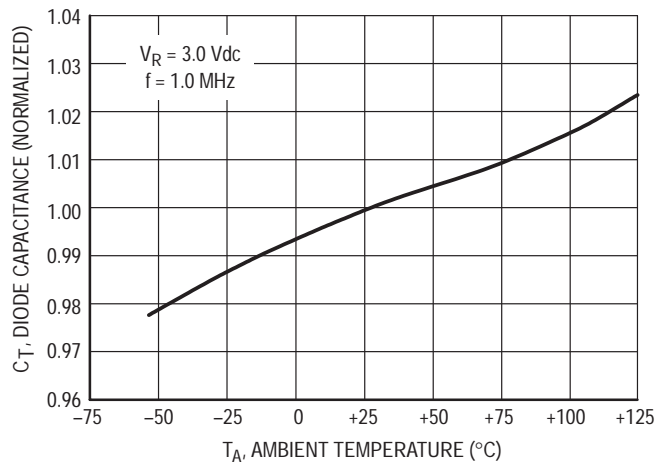
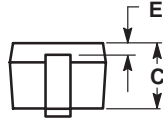
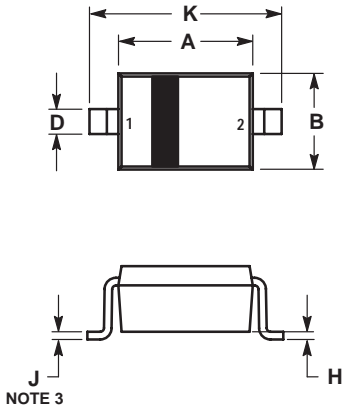


Figure 3. Diode Capacitance

# MMVL105GT1

## PACKAGE DIMENSIONS

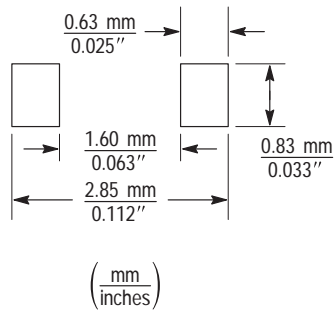
### SOD-323 PLASTIC PACKAGE CASE 477-02 ISSUE A




- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETERS.
  3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

- STYLE 1:  
PIN 1. CATHODE  
2. ANODE



### SOD-323 Soldering Footprint

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