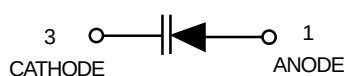


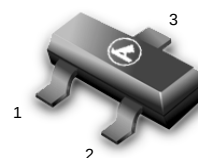
# Silicon Tuning Diode

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



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

### MAXIMUM RATINGS(EACH DIODE)

| Rating                                        | Symbol    | Value       | Unit                 |
|-----------------------------------------------|-----------|-------------|----------------------|
| Reverse Voltage                               | $V_R$     | 30          | Vdc                  |
| Forward Current                               | $I_F$     | 200         | mAdc                 |
| Device Dissipation @ $T_A = 25^\circ\text{C}$ | $P_D$     | 225         | mW                   |
| Derate above $25^\circ\text{C}$               |           | 1.8         | 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<br>( $I_R=10\mu\text{Adc}$ )    | $V_{(BR)R}$ | 30  | —   | Vdc  |
| Reverse Voltage Leakage Current<br>( $V_R=28\text{Vdc}$ ) | $I_R$       | —   | 50  | nAdc |

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

## MMBV105GLT1

### TYPICAL CHARACTERISTICS

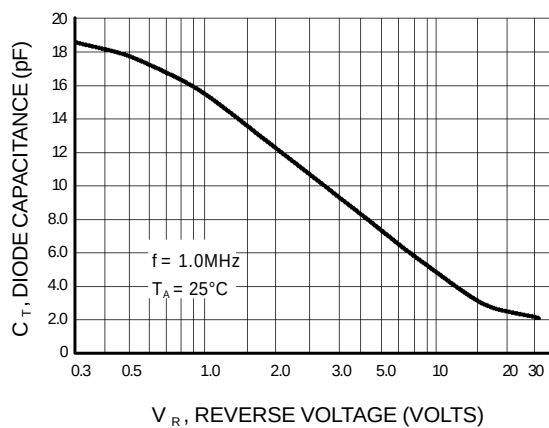


Figure 1. Diode Capacitance

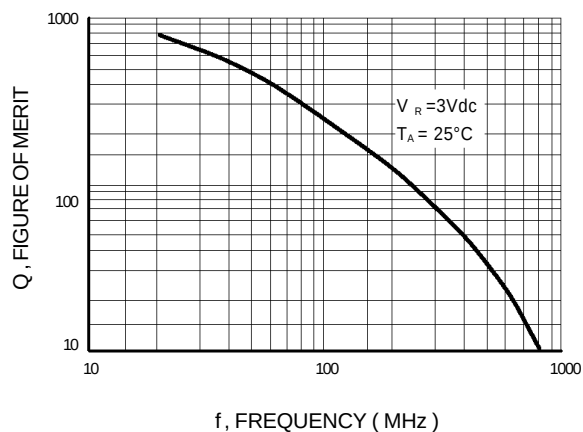


Figure 2. Figure of Merit

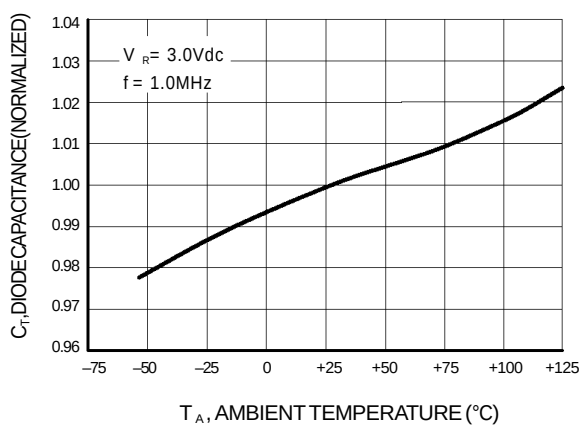


Figure 3. Diode Capacitance