

## Dual Hot Carrier Mixer Diodes

These devices are designed primarily for UHF mixer applications but are suitable also for use in detector and ultra-fast switching circuits.

- Very Low Capacitance — Less Than 1.0 pF @ Zero Volts
- Low Forward Voltage — 0.5 Volts (Typ) @  $I_F = 10$  mA

### MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	7.0	$V_{CC}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board <sup>(1)</sup> $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate <sup>(2)</sup> $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### DEVICE MARKING

MMBD352LT1 = M5G; MMBD353LT1 = M4F; MMBD354LT1 = M6H; MMBD355LT1 = MJ1

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

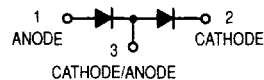
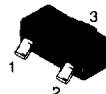
Characteristic	Symbol	Min	Max	Unit
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### OFF CHARACTERISTICS

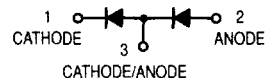
Forward Voltage ( $I_F = 10$ mAdc)	$V_F$	—	0.60	V
Reverse Voltage Leakage Current ( $V_R = 3.0$ V) ( $V_R = 7.0$ V)	$I_R$	—	0.25 10	$\mu\text{A}$
Capacitance ( $V_R = 0$ V, $f = 1.0$ MHz)	C	—	1.0	pF

1. FR-5 =  $1.0 \times 0.75 \times 0.062$  in.
2. Alumina =  $0.4 \times 0.3 \times 0.024$  in. 99.5% alumina.

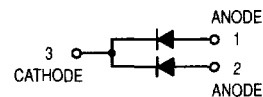
**MMBD352LT1**  
**MMBD353LT1**  
**MMBD354LT1**  
**MMBD355LT1**



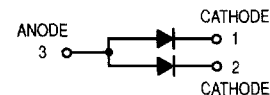
**MMBD352LT1**  
CASE 318-08, STYLE 11  
SOT-23 (TO-236AB)



**MMBD353LT1**  
CASE 318-08, STYLE 19  
SOT-23 (TO-236AB)



**MMBD354LT1**  
CASE 318-08, STYLE 9  
SOT-23 (TO-236AB)



**MMBD355LT1**  
CASE 318-08, STYLE 12  
SOT-23 (TO-236AB)

TYPICAL CHARACTERISTICS

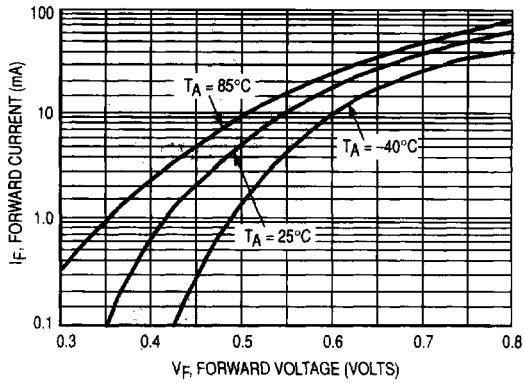


Figure 1. Forward Voltage

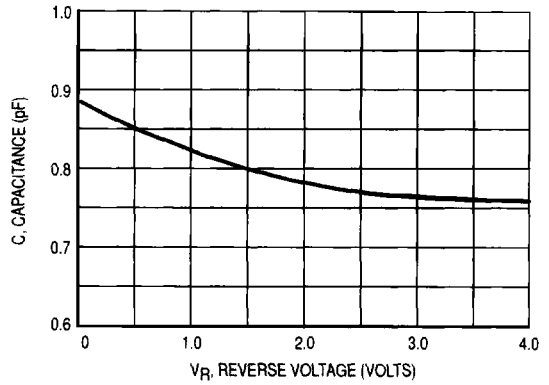


Figure 2. Capacitance