

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

MMBD352LT1
MMBD353LT1
MMBD354LT1
MMBD355LT1

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 ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate (2) $T_A = 25^\circ\text{C}$ Derate above 25°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)

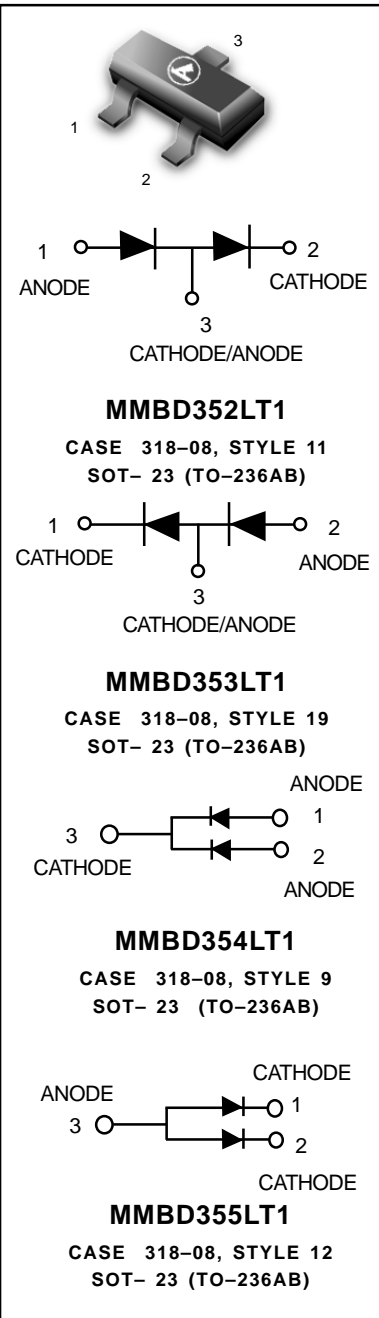
Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Forward Voltage ($I_F = 10$ mA dc)	V_F	—	0.60	V
Reverse Voltage Leakage Current ($V_R = 3.0$ V) ($V_R = 7.0$ V)	I_R	—	0.25 10	μA
Capacitance ($V_R = 0$ V, $f = 1.0$ MHz)	C	—	1.0	pF

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



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TYPICAL CHARACTERISTICS

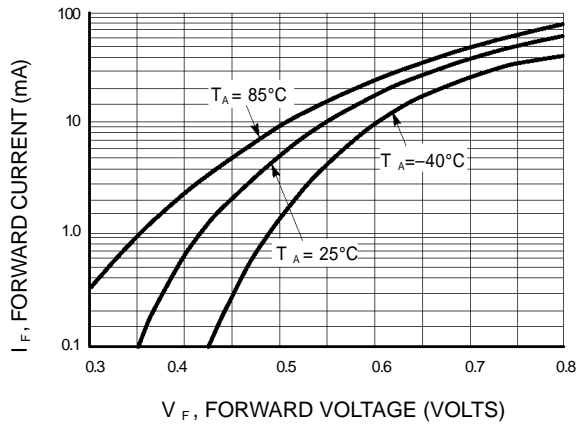


Figure 1. Forward Voltage

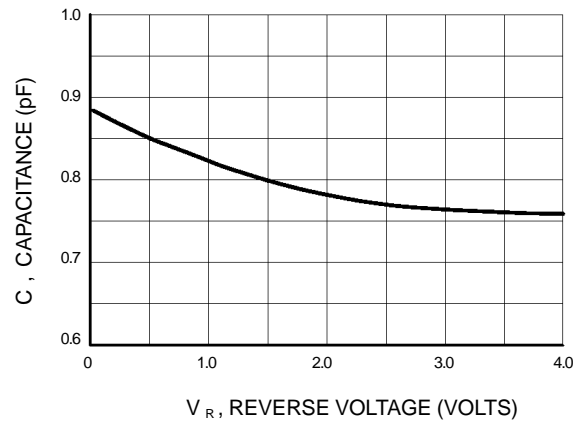


Figure 2. Capacitance