

# Double Balanced Mixers

## 1 - 18 GHz

## ML 2000-00-XXX Series

V3.00

### Features

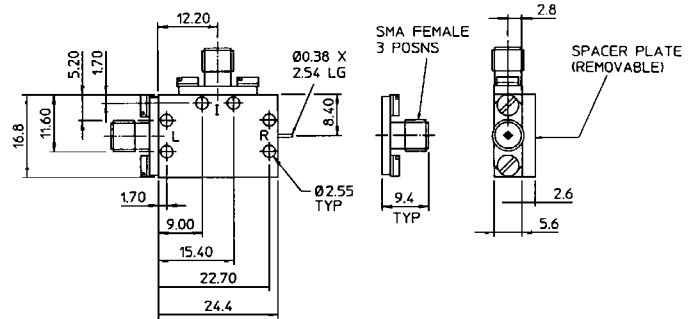
- Double Balanced
- Broad Frequency Ranges
- Low Conversion Loss
- Coaxial and Drop-in Packages

### Description

M/A-COM provides a wide range of high performance mixers covering the frequency range from 1GHz to 18GHz in a variety of coaxial and drop in package styles.

Double balanced mixers offer high isolation for all three ports, low conversion loss and good 50ohm match at all ports. Three versions of each mixer type are available with different nominal local oscillator drive levels and respective compression point and third order intercept. Both low and microwave frequency IF ranges are available. Double balanced mixers incorporate four Schottky barrier diodes and two wideband transformers. The designs are optimised to match the diodes and construct the transformers for balance and noise figure.

M/A-COM has a wide experience in the development and production of custom components and can offer mixers with optimised performance, non-standard package outlines or integrated with other components such as isolators, limiters, amplifiers and oscillators to provide complex mixer assemblies. Please contact the factory for applications assistance.



#### DRAWING NOTES:

Third Angle Projection  
All dimensions in mm  
Tolerances

X.X = ±0.5mm  
X.XX = ±0.2mm

Standard Finish ML2000-00-XXX Stainless Steel

Specifications Subject to Change Without Notice.

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## Description

This series of double balanced mixers offers a range of RF frequencies with either low or high IF frequency bands and low, medium or high barrier Schottky diodes. The microstrip mixer is packaged in an hermetic housing with removable SMA connectors. With the connectors removed the device can be integrated directly into microstrip and stripline circuits.

## Specifications @ +25°C

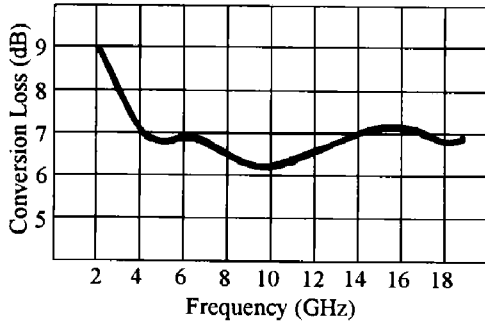
RF/LO Frequency Range (GHz)	3dB IF Band-Width (GHz) Min.	L-R Isolation (dB) Min.	L-I Isolation (dB) Min.	LO Input Range (dBm) Min/Max	Conversion Loss (dB) Typ/Max	RF Input 1dB Compression Point (dBm) Min.	RF Input 3rd Order Intercept (dB) Min.	Part Number
2.0 - 8.0	DC-1.0	20	15	+7/+11	7.0/10.5	+2	+12	ML2401-04-DBL
				+11/+15	7.0/10.5	+5	+15	ML2401-04-DBM
				+15/+18	7.5/11.0	+8	+18	ML2401-04-DBH
8.0 - 12.0	DC-1.0	20	15	+7/+11	6.5/8.0	+2	+12	ML2501-04-DBL
				+11/+15	6.5/8.0	+5	+15	ML2501-04-DBM
				+15/+18	7.0/8.5	+8	+18	ML2501-04-DBH
12.0 - 18.0	DC-1.0	20	15	+7/+11	7.0/9.0	+2	+12	ML2601-04-DBL
				+11/+15	7.0/9.0	+5	+15	ML2601-04-DBM
				+15/+18	7.5/9.5	+8	+18	ML2601-04-DBH
	0.7-6.0	20	15	+7/+11	6.0/9.5	+2	+12	ML2602-04-DBL
				+11/+15	6.0/9.5	+5	+15	ML2602-04-DBM
				+15/+18	6.5/10.0	+8	+18	ML2602-04-DBH
6.0 - 18.0	DC-1.0	20	15	+7/+11	6.5/9.5	+2	+12	ML2701-04-DBL
				+11/+15	6.5/9.5	+5	+15	ML2701-04-DBM
				+15/+18	7.0/10.0	+8	+18	ML2701-04-DBH
	0.7-6.0	20	15	+7/+11	6.0/9.5	+2	+12	ML2702-04-DBL
				+11/+15	6.0/9.5	+5	+15	ML2702-04-DBM
				+15/+18	6.5/10.0	+8	+18	ML2702-04-DBH

### Notes:

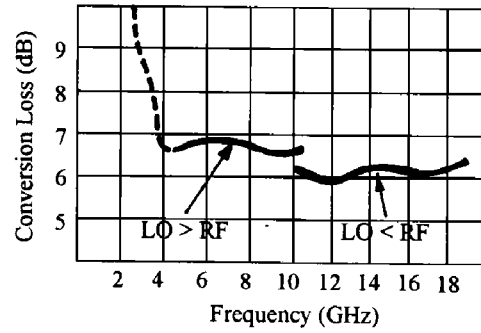
1. Maximum RF input power 100mW (L, M suffix), 200mW (H suffix).
2. All measurements performed in a 50ohm system.
3. VSWR typically 3.0:1 (RF, LO), 4.0:1 (IF).
4. Case operating temperature -55°C to +85°C.  
Storage temperature -55°C to +125°C.

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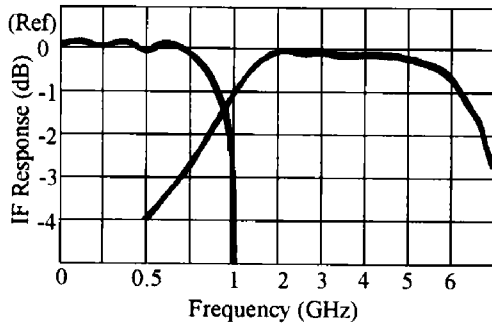
CONVERSION LOSS (IF = 300 MHz)



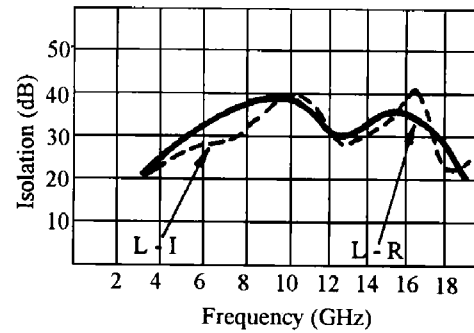
CONVERSION LOSS (IF = 3 GHz)



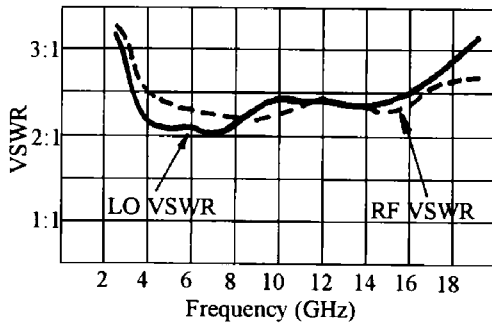
IF RESPONSE



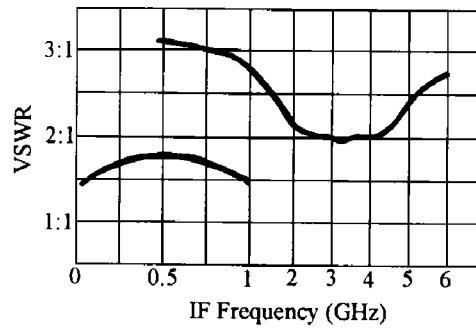
ISOLATION



LO, RF VSWR



IF VSWR



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