



Miniature Open Substrate Mixers

2901 Series

Features

- Double-Balanced 6-18 GHz
- Miniature Drop-In Carrier
- High Reliability

Description

Miniature broadband double balanced mixers on an open substrate configuration for direct integration into microstrip circuitry. Low cost rugged construction designed for high volume commercial and high-rel military applications.

Environmental

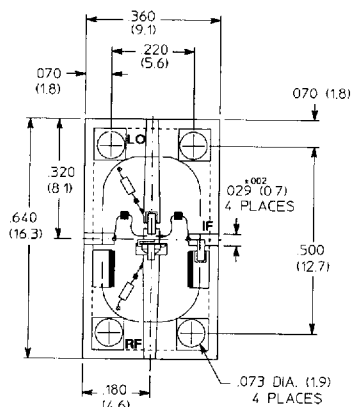
These devices are designed to meet the following conditions:

Test	MIL-STD	Method	Cond
Mechanical Shock	202	213B	C
Constant Acceleration	883	2001	A
Thermal Cycle	883	1010	B
Vibration, HF	202	204D	D

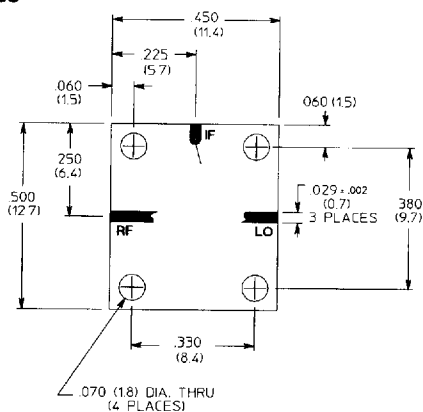
Maximum Ratings

Parameter	LO Drive Level	
	Low Medium (L,M Suffix)	High (H Suffix)
Operating Temp. Max.	-55°C to +100°C	-55°C to +100°C
Storage Temp. Max.	-65°C to +125°C	-65°C to +125°C
RF Input Power Max.	100mW	200mW

2901-10 Series



2901-11 Series



Dimension tolerances are $\pm .005$.
For mounting details, request Application Note No. 101.

Specifications Subject to Change Without Notice.

M/A-COM Inc. ■ 1011 Pawtucket Boulevard, Lowell, MA 04853 USA

■ Telephone: 800-366-2266

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Specifications over Operating Temperature Range of -55°C to +100°C

IF/LO Frequency Range (GHz)	3 dB IF Bandwidth (GHz min.)	L - R Isolation (dB min.)	L - I Isolation (dB min.)	Conversion Loss (dB) Typ./Max.	Lo Range (dBm) Min./Max.	Input 1 dB Compression Pt. (dBm min.)	Input 3 rd Order Intercept Pt. (dBm min.)	Part Number
4-18	dc-1	20	15	6.0/9.0	+7/+11	+2	+12	2901-10-DBL
4-18	dc-1	20	15	6.0/9.0	+11/+15	+5	+15	2901-10-DBM
4-18	dc-1	20	15	6.5/9.5	+15/+18	+8	+18	2901-10-DBH
6-18	dc-1	20	15	6.0/9.0	+7/+11	+2	+12	2901-11-DBL
6-18	dc-1	20	15	6.0/9.0	+11/+15	+5	+15	2901-11-DBM
6-18	dc-1	20	15	6.5/9.5	+15/+18	+8	+18	2901-11-DBH

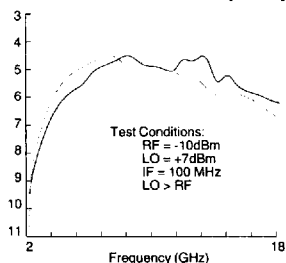
Typical Performance 25°C

2901-10 Series

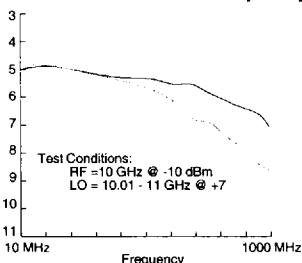
2901-11 Series

Single tone intermodulation matrixes shown (in dBc) at RF bandwidth extremes with LO and IF held constant. In actual practice, these levels are frequency-dependent and vary approximately ± 5 dB across RF/IF bandwidths.

Conversion Loss vs. Frequency



Conversion Loss vs. IF Frequency



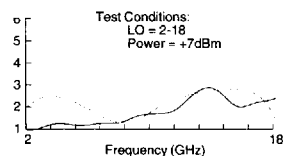
Test Conditions:
LO = 6 GHz, @ +7 dBm
IF = 200 MHz
RF = -10 dBm

LO Harmonics	1	2	3
RF Harmonics	20.7	35.2	46.6
2	27.3	45.3	-
1	-	-	-

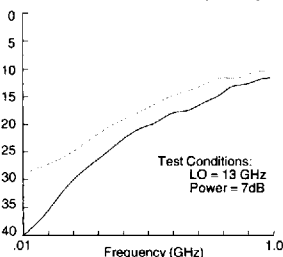
Test Conditions:
LO = 17 GHz, @ +7 dBm
IF = 200 MHz
RF = -10 dBm

LO Harmonics	1	2	3
RF Harmonics	20.7	35.2	46.6
2	27.3	45.3	>60.0
1	-	-	-

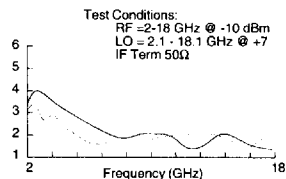
LO VSWR vs. Frequency



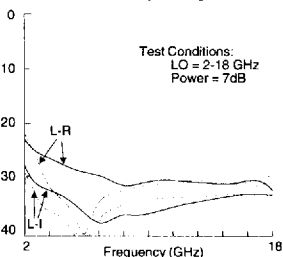
IF Return Loss vs. Frequency



RF VSWR vs. Frequency



Isolation vs. Frequency



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