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

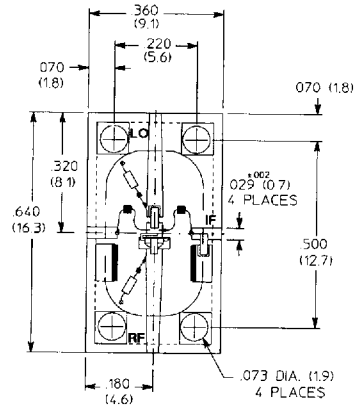
These devices are designed to meet the following conditions:

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

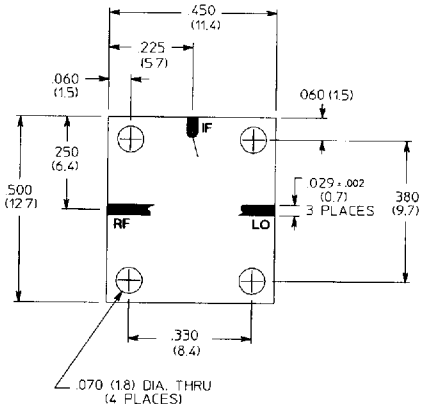
Maximum Ratings

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 ±.005.
For mounting details, request Application Note No. 101.

Specifications Subject to Change Without Notice.

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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 3rd 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

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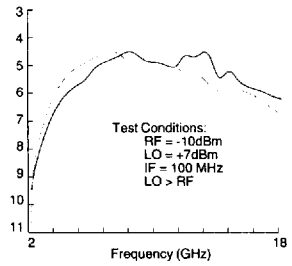
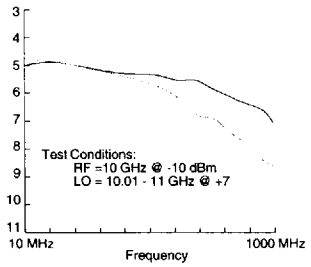
2901-11 Series

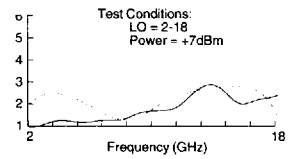
Conversion Loss vs. Frequency



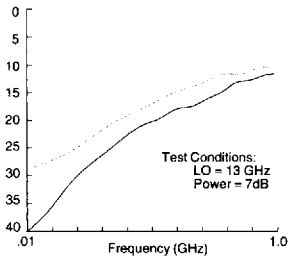
Conversion Loss vs. IF Frequency



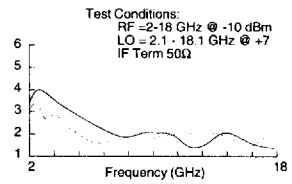
LO VSWR vs. Frequency



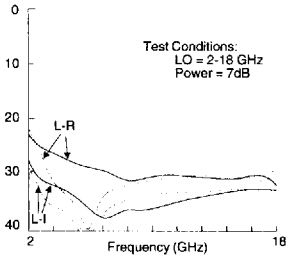
IF Return Loss vs. Frequency



RF VSWR vs. Frequency



Isolation vs. Frequency



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.

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

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

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