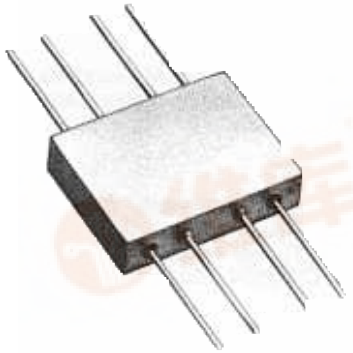
DBM-700H High Level Subminiature Mismatch Insensitive Flatpack Double Balanced Mixer 1-3500 MHz

VARI-L



DESCRIPTION

DBM-700H is a high performance double balanced mixer that offers extremely wide bandwidth. This mixer features intermodulation performance that is virtually insensitive to mismatches on any or all of its ports. Due to almost constant linearity across its entire band, the DBM-700H's 3rd order IM products are essentially flat. This mixer is ideal to use in applications where elaborate and expensive matching networks are prohibitive. The subminiature package is sealed, RFI shielded and constructed to withstand severe environments.

LIMITED WARRANTY

Vari-L Company, Inc. warrants its products against defects in parts and workmanship for a period of one year.

GUARANTEED MINIMUM PERFORMANCE DATA

TEST CONDITION:

LO + 20 dBm (High side LO)
RF − 10 dBm
IF 100 MHz

NOTE:

Specifications below, guaranteed with IF from 50 to 800 MHz. For higher IF frequencies, consult IF response curve for typical rolloff.

OVERALL FREQUENCY RANGE IN MHz:

L	R	X
1-3500	1-3500	5-2500

FREQUENCY BANDS IN MHz:

	5-1000	1000-3000	1-3500
Conversion Loss	7.5	8.5	9.5
L-R Isolation	30	20	20
L-X Isolation	30	15	15
R-X Isolation	20	15	15

ABSOLUTE MAXIMUM RATINGS:

Operating Temp. −54 to +100°C
Total Input Power 1 watt @ +25°C
Derate linearly to 700 mW @ 100°C(4mW/°C)

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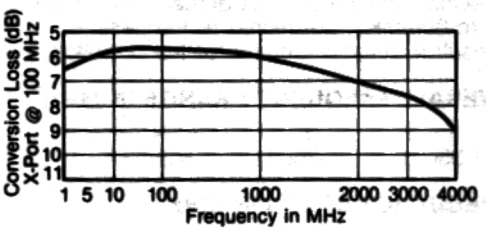
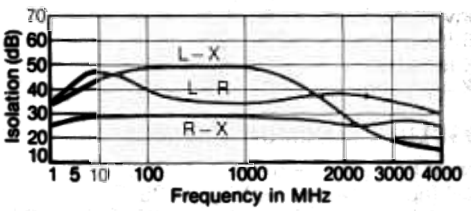
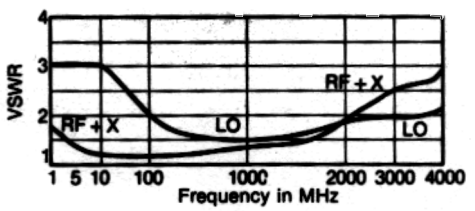
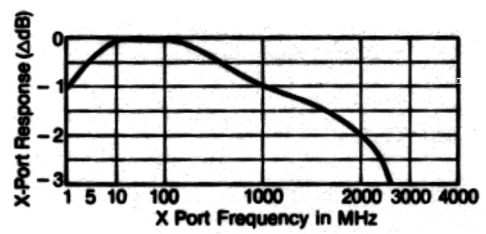
TYPICAL PERFORMANCE

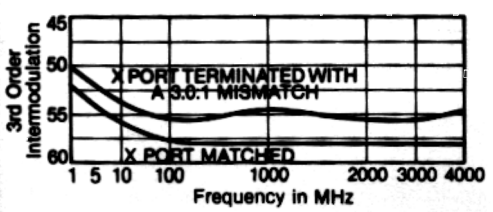
Impedance: All ports 50 ohms
1 dB Compression Point: +16 dBm
1 dB Desensitization Point: +14 dBm
3rd Order Intercept Point: +20 dBm
Noise Figure is within 1 dB of conversion loss
LO Power Range: +17 to +23 dBm
3rd order intermodulation Ratio
Degradation 3 dB typical @ I.F.VSWR of 3.0:1











ENVIRONMENTAL CONDITIONS

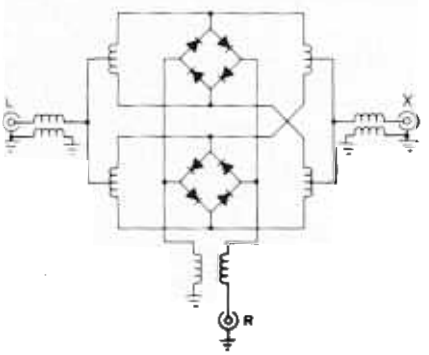
GUARANTEED ENVIRONMENTAL PERFORMANCE:

All units are designed to meet their specifications over −54°C to +100°C and after exposure to any or all of the following tests per MIL-STD-202E.

Exposure	Method	Test Condition
Thermal Shock	107D	B
Altitude	105C	G
H.F. Vibration	204C	D
Mechanical Shock	213B	C
Random Vibration (15 minutes per axis)	214	IIF
Solderability	208C	
Terminal Strength	211A	C
Resistance to Soldering Heat	210A	B

Sealed units, meet the requirements of Method 106D of MIL-STD-202E when exposed to humidity.

FUNCTIONAL SCHEMATIC



PACKAGE

CASE MATERIAL:

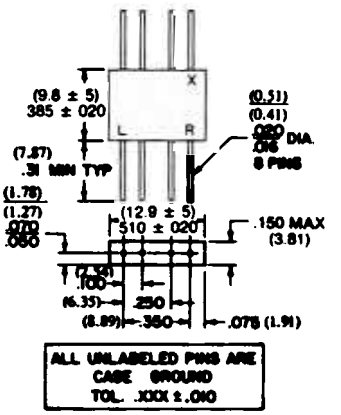
F15 Kovar per ASTM Standard F15-68, (Chemical composition per MIL-STD-1276, Type K)

FINISH:

Plating, all metal parts: gold per MIL-G-45204, Type I, Grade A, Class 1, over nickel per MIL-C-26074, Class 1

LEADS:

Kovar per MIL-STD-1276, Type K



VARI-L Company, Inc. 11101 East 51st Avenue Denver, Colorado 80239 Phone: (303) 371-1560 TWX: 910-932-0311