



DBM-701
High Level
Subminiature
Mismatch Insensitive
T0-8 Packaged Double
Balanced Mixer
1-3500 MHz



DESCRIPTION

DBM-701 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-701'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.

GUARANTEED MINIMUM PERFORMANCE DATA

TEST CONDITION:

LO + 10 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.

For best performance do not rely on ground pin alone for grounding. The above performance is guaranteed with the base surface of the header grounded to the circuit board ground plane. Use of conductive epoxy or a mechanical clip is recommended.

OVERALL FREQUENCY RANGE IN MHz:

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

FREQUENCY BANDS IN MHz:

	100-1000	1000-1800	1800-3500
Conversion Loss	7.5	8.5	10.5
L-R Isolation	25	20	20
L-X Isolation	20	20	20
R-X Isolation	20	20	15

ABSOLUTE MAXIMUM RATINGS:

Operating Temp. - 54 to +100°C
Total Input Power 400 mW @ +25°C
Derate linearly to 100 mW @ 100°C(4mW/°C)

Specifications subject to
change without notice.

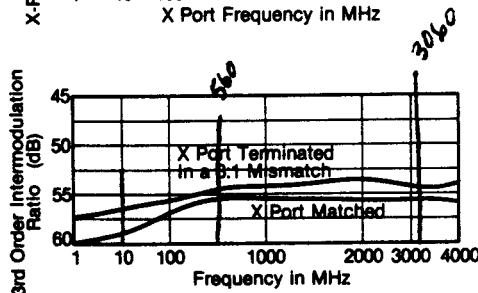
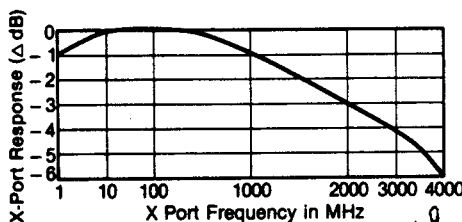
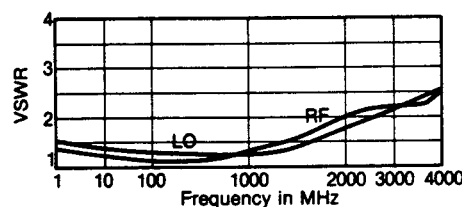
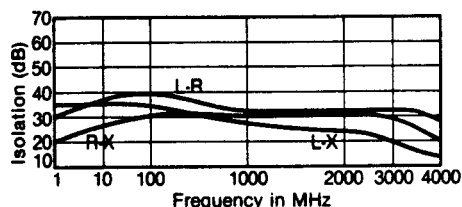
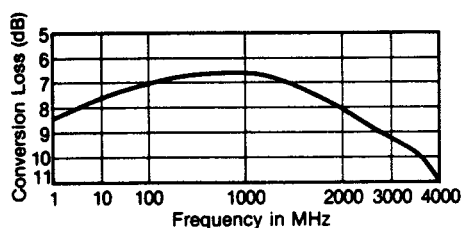
8.10.04 Rev. A

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TYPICAL PERFORMANCE

Impedance: All ports 50 ohms
1 dB Compression Point: +7 dBm
1 dB Desensitization Point: +5 dBm
3rd Order Intercept Point: +17 dBm
Noise Figure is within 1 dB of conversion loss
LO Power Range: +10 to +20 dBm
3rd order intermodulation Ratio
Degradation 3 dB typical @ I.F.VSWR of 3.0:1



ENVIRONMENTAL CONDITIONS

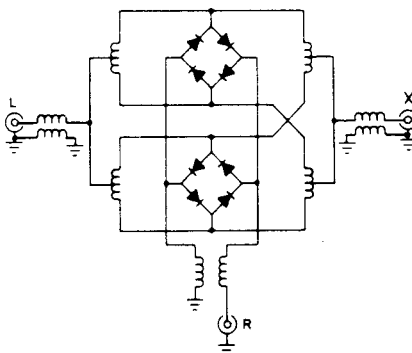
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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	214	IIF
(15 minutes per axis)		
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

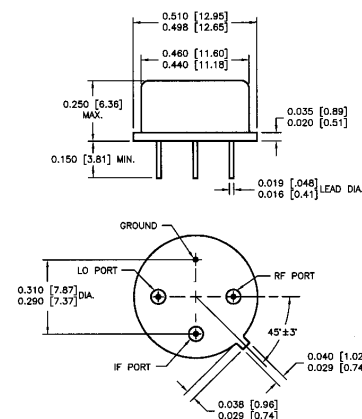


PACKAGE MATERIAL:

Header: F15 Kovar per ASTM Standard F15-68, (Chemical composition per MIL-STD-1276, Type K)
Cover: Nickel 200 per ASTM B162-58T
Leads: Kovar, Chemical Composition per MIL-STD-1276, Type K
Seals: Glass

FINISH:

Headers & Leads: Nickel per QQ-N-290, Class II.
Cover: Nickel 200 per ASTM B162-58T



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