



DBM-600
Subminiature
Flatpack Double
Balanced Mixer
.25-5.0 GHz

MIXERS



DESCRIPTION

DBM-600 is a high performance flatpack double balanced mixer that offers excellent performance to 5 GHz. High uniform isolation, wide bandwidth and X port response to 3 GHz make the DBM-600 suitable for advanced wideband applications.

The circuitry, consisting of five transformers and eight matched Schottky diodes, sealed in the gold plated flatpack header, is designed to withstand severe environments. Its configuration allows convenient microstrip or printed circuit board installation.

Each DBM-600 mixer is individually tested to Vari-L's demanding quality and performance specifications.

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 + 13 dBm (High side LO)
RF - 10 dBm
IF 100 MHz

NOTE:

Specifications below, guaranteed with IF from 5 to 400 MHz. For higher IF frequencies, consult IF response curve for typical rolloff.

OVERALL FREQUENCY RANGE IN GHz:

L	R	X
.25-5	.25-5	.005-3

FREQUENCY BANDS IN GHz:

	.25-.5	.5-2.5	2.5-5.0
Conversion Loss	9.0	7.5	9.5
L-R Isolation	10	15	15
L-X Isolation	30	23	15
R-X Isolation	25	23	20

ABSOLUTE MAXIMUM RATINGS:

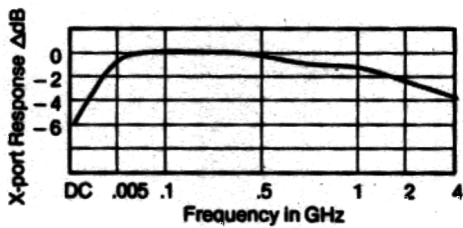
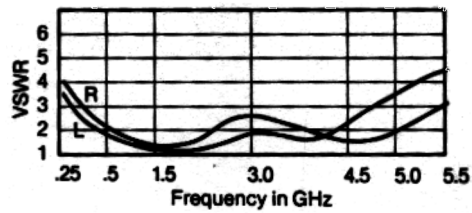
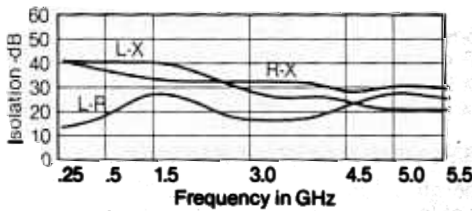
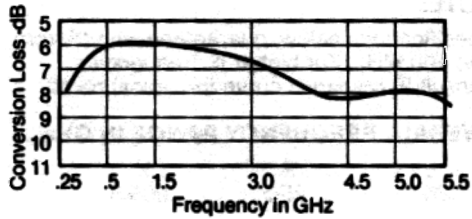
Operating Temp. - 54 to +100°C
Total Input Power 400 mW @ +25°C
Derate linearly to 100 mW @ 100°C

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TYPICAL PERFORMANCE

Impedance: All ports 50 ohms
1 dB Compression Point: +6 dBm
1 dB Desensitization Point: +4 dBm
3rd Order Intercept Point: +20 dBm
Noise Figure is within 1 dB of conversion loss
LO Power Range: +10 to +20 dBm



ENVIRONMENTAL CONDITIONS

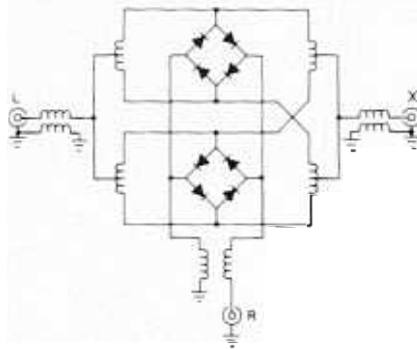
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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

CASE MATERIAL:

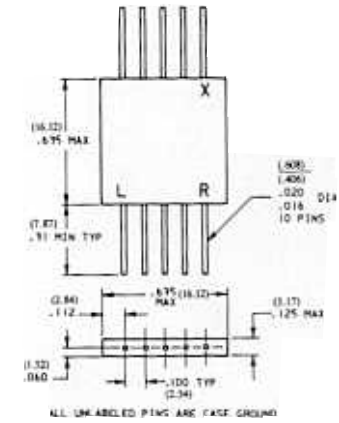
F15 Kovar per ASTM Standard F15-68, (Chemical composition per MIL-STD-1276, Type K)

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



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