

DBM-188
 Very High Level
 + 30 dBm
 Intercept
 Point Double
 Balanced Mixer
 .5-450 MHz



MIXERS



DESCRIPTION

DBM-188 is a miniature double balanced mixer that offers superior signal handling capability, (typically better than + 30 dBm intercept point) with only + 20 dBm L.O. power. Mid-band isolations are typically better than 40 dB.

Relatively constant linearity over the frequency range is made possible with the use of unique transformers and optimized biasing networks. In systems where the mixer is the limiting factor, the DBM-188 may offer substantial improvement in overall system linearity without a severe penalty in LO power increase.

DBM-188 is designed to withstand

Each DBM-188 is designed to meet the demands of high performance systems.

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 DC to 100 MHz. For higher IF frequencies, consult IF response curve for typical rolloff.

OVERALL FREQUENCY RANGE (in MHz)

L	R	X
.5-450	.5-450	DC-800

FREQUENCY BANDS IN MHz:

Conversion L	7.5		
L-R Isolation	45	45	
L-X Isolation	45	25	20
R-X Isolation	35	30	25

ABSOLUTE MAXIMUM RATINGS:

Operating Temp. - 54 to + 100°C
 X-port Input Current 50 mA
 Total Input Power 400 mW @ + 25°C
 Derate linearly to 100 mW @ 100°C

DC POLARITY

Positive with L and R ports

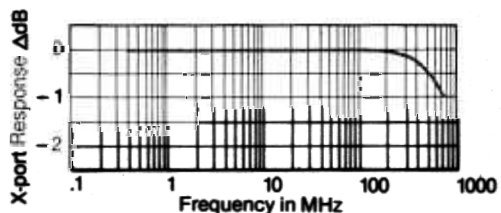
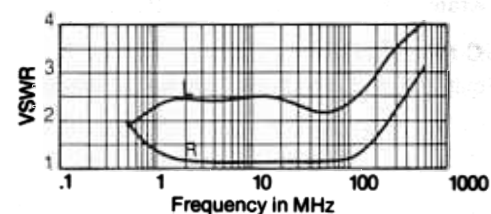
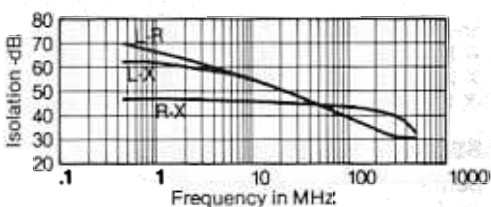
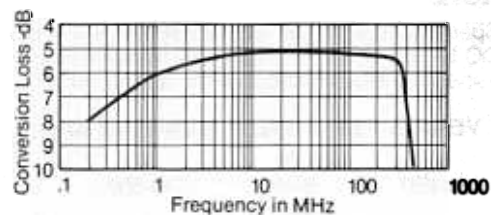
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VARI-L

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TYPICAL PERFORMANCE

Impedance: All ports 50 ohms
 1 dB Compression Point: + 15 dBm
 1 dB Desensitization Point: + 13 dBm
 3rd Order Intercept Point: + 30 dBm
 Noise Figure is within 1 dB of conversion loss
 LO Power Range: + 13 to + 23 dBm



ENVIRONMENTAL CONDITIONS

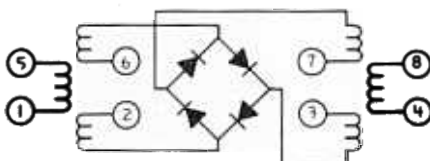
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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



PIN CONNECTIONS

LO	1
RF	8
IF	3,7
GROUND	2,4,5,6
CASE	—
GROUND	2,6

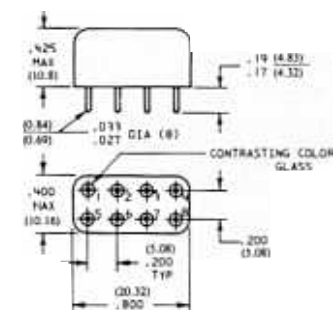
PACKAGE

MATERIAL:

Header: 1010 CRS
 Pins: #52 Alloy
 Seals: Glass
 Cover: 18% Grade A Nickel Silver per ASTM B112-66, Alloy 2; QQ-C-585-1, Comp. 2, CDA-752 (65% Copper, 18% Nickel, 17% Zinc)

FINISH:

Cover: Nickel Silver
 Header: Bright Tin Dip per MIL-T-10727 Class II
 Pins: Bright Tin Dip per MIL-T-10727 Class II



XXX ± .010
 (XX ± .25)