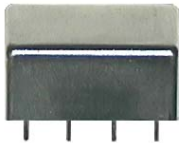




CM-2H8
 Miniature
 High Level
 Double
 Balanced
 Mixer
 10-1000 MHz



DESCRIPTION

CM-2H8 is a moderately priced, high level double balanced mixer offering good linearity and excellent overall electrical performance to 1000 MHz. Its performance/cost ratio offers advanced performance to the designer who must stay within tight materials budgets. It is ideally suited as the first mixer in receiver and convertor designs to 1000 MHz due to its strong signal handling capability. The low midband conversion loss may make front-end RF amplifiers unnecessary in some applications, thus improving overall input intercept point.

The circuitry consists of eight specially matched Schottky diodes and two rugged transmission line transformers. Each CM-2H8 is individually tested to S.M.D.I.'s demanding quality and performance specifications.

GUARANTEED MINIMUM PERFORMANCE DATA

TEST CONDITION:

LO + 17 dBm (High side LO)
 RF — 10 dBm
 IF 100 MHz

NOTE:

Specifications below, guaranteed with IF from DC to 500 MHz. For higher IF frequencies, consult IF response curve for typical rolloff.

OVERALL FREQUENCY RANGE IN MHz:

L	R	X
10-1000	10-1000	DC-1000

FREQUENCY BANDS IN MHz:

	10-100	100-500	500-1000
Conversion Loss	7.5	7.0	9.5
L-R Isolation	35	30	20
L-X Isolation	35	25	15
R-X Isolation	25	10	8

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:

Negative with L and R port signals in-phase.

Specifications subject to change without notice.

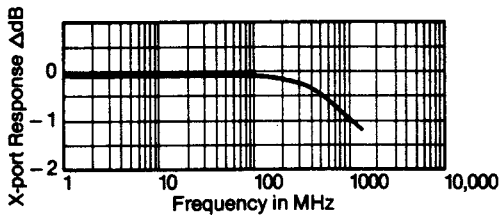
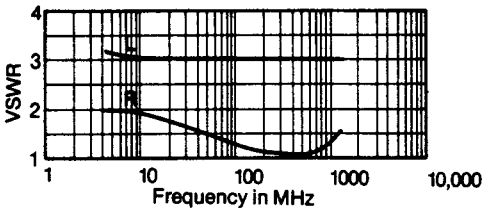
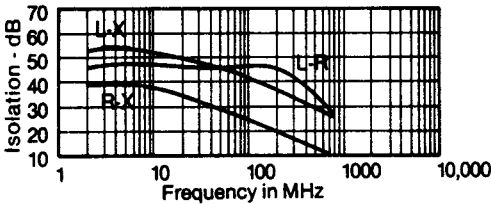
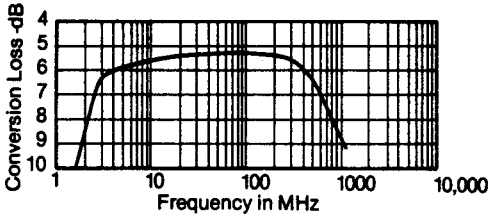
8.10.04 Rev. A

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TYPICAL PERFORMANCE

Impedance: All ports 50 ohms
 1 dB Compression Point: + 13 dBm
 1 dB Desensitization Point: + 11 dBm
 3rd Order Intercept Point: + 25 dBm
 Noise Figure is within 1 dB of conversion loss
 LO Power Range: + 10 to + 20 dBm



Specifications subject to change without notice.

ENVIRONMENTAL CONDITIONS

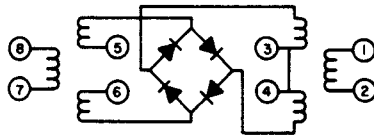
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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	8
RF	1
IF	3, 4
Ground	2, 5, 6, 7
Case Ground	2, 5, 6, 7

NOTE: PINS 3 AND 4 MUST BE CONNECTED TOGETHER.
 ALL GROUND PINS MUST BE GROUNDED.

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

