

Frequency Mixer

Level 17 (LO Power +17 dBm) 2 to 500 MHz

RMS-1H+



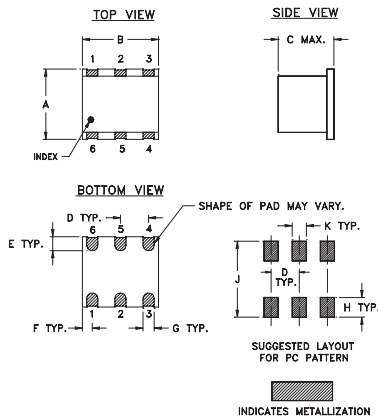
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

LO	1
RF	4
IF	5
GROUND	2,3,6

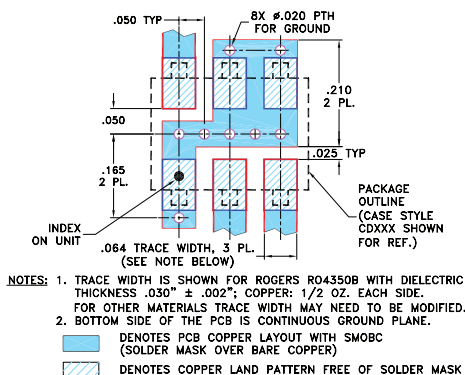
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F
.250	.31	.20	.100	.050	.055
6.35	7.87	5.08	2.54	1.27	1.40
G	H	J	K	wt	
.040	.070	.270	.050	grams	
1.02	1.78	6.86	1.27	0.50	

Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



Features

- excellent L-R isolation, 44 dB typ.
- conversion loss, 6.25 dB typ.
- small size, 0.25"x0.31"x0.2"

Applications

- HF & VHF communications
- intermediate frequency for downconverters

CASE STYLE: TT240

PRICE: \$10.95 ea. QTY (1-9)

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF	IF	Total Range	Max.	σ	X̄	L		M		U		L		M		U		
						Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
						f _L -f _U												
2-500	DC-500	6.25	.034	7.0	8.5	55	44	44	25	33	20	50	34	45	25	37	22	22

1 dB COMP.: +14 dBm typ.

For phase detection, DC output positive with in-phase RF & LO.

L = low range [f_L to 10 f_L]

m= mid band [2f_L to f_L/2]

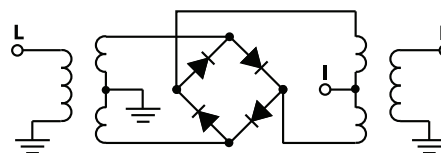
M = mid range [10 f_L to f_L/2]

U = upper range [f_L/2 to f_U]

Typical Performance Data

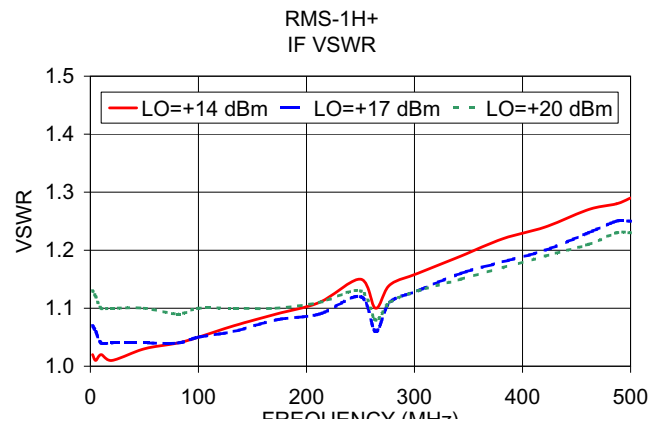
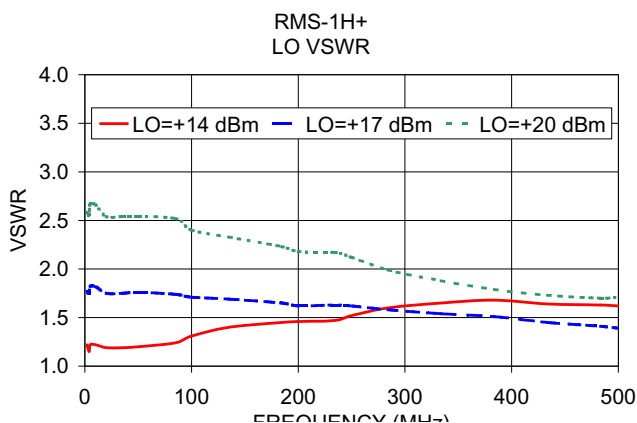
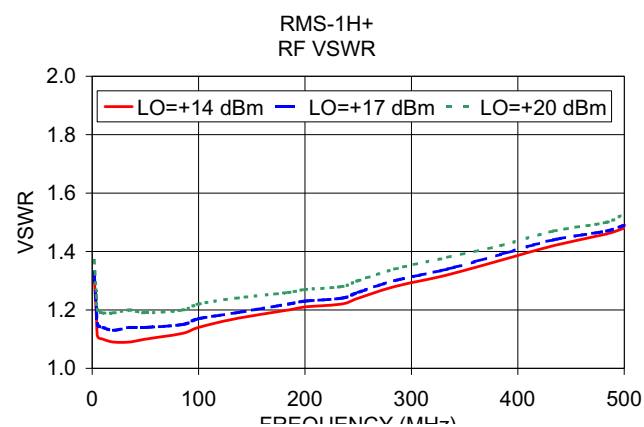
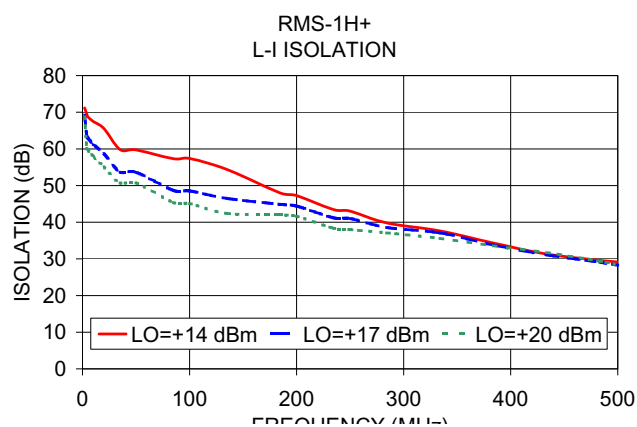
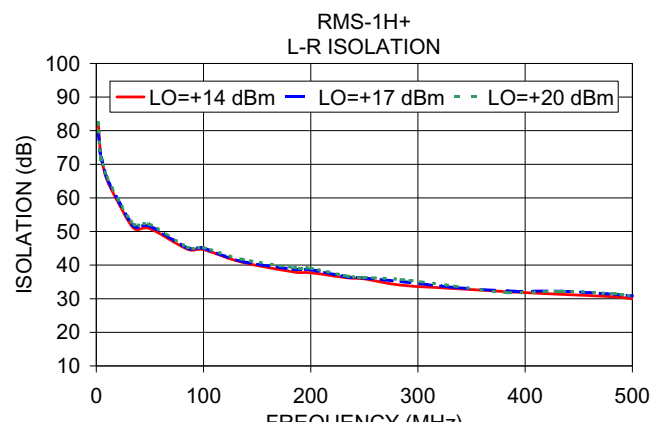
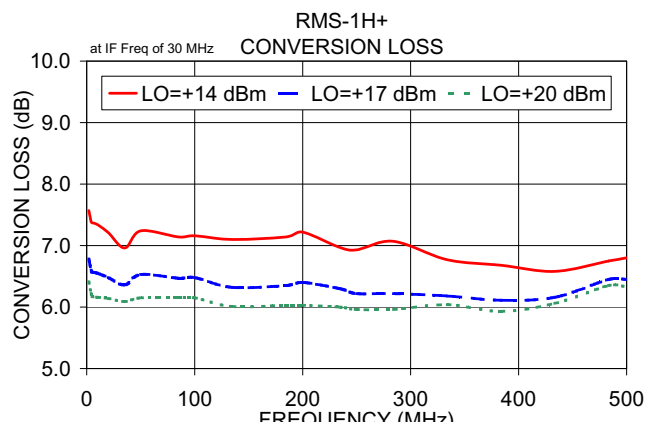
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
2.00	32.00	6.78	79.29	69.19	1.33	1.77
4.00	34.00	6.60	72.35	63.39	1.20	1.75
5.00	35.00	6.57	71.51	62.98	1.15	1.82
10.00	40.00	6.55	65.84	61.30	1.14	1.82
20.00	50.00	6.48	59.50	58.68	1.13	1.75
35.20	65.20	6.36	51.64	53.67	1.14	1.75
50.00	80.00	6.53	51.61	53.63	1.14	1.76
85.00	55.00	6.47	45.13	48.67	1.15	1.74
100.00	70.00	6.48	44.98	48.52	1.17	1.71
134.80	104.80	6.32	41.19	46.50	1.19	1.69
184.60	154.60	6.35	38.78	44.90	1.22	1.65
200.00	170.00	6.40	38.62	44.42	1.23	1.62
234.40	204.40	6.30	36.44	41.20	1.24	1.63
250.00	220.00	6.22	36.14	41.01	1.26	1.62
284.20	254.20	6.22	35.11	38.57	1.30	1.58
334.00	304.00	6.18	33.38	37.07	1.34	1.54
383.80	353.80	6.11	32.33	33.77	1.39	1.51
433.60	403.60	6.16	32.22	31.10	1.44	1.45
483.40	453.40	6.45	31.29	29.09	1.47	1.41
500.00	470.00	6.45	30.80	28.30	1.49	1.39

Electrical Schematic



Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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