

Frequency Mixer

RMS-2D+

Level 7 (LO Power +7 dBm) 5 to 1000 MHz

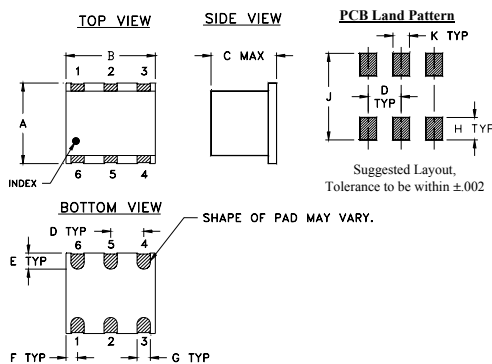
Maximum Ratings

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

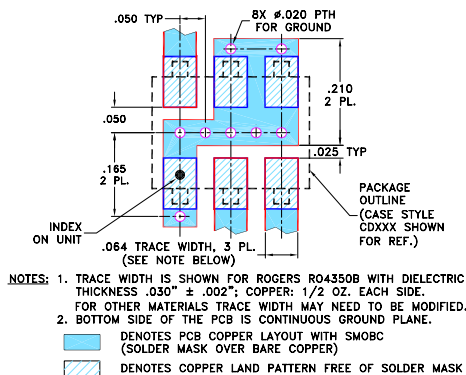


Outline Dimensions (inches)

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)



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-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- excellent L-R isolation, 40 dB typ.
- conversion loss, 6.81 dB typ.
- small size, 0.25"x0.31"x0.2"

Applications

- ISM/GSM
- cellular



Generic photo used for illustration purposes only

CASE STYLE: TT240

+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				
f_L - f_U	$\bar{X}$ σ Max. Total Range Max.	L M U Typ. Min. Typ. Min. Typ. Min.	L M U Typ. Min. Typ. Min. Typ. Min.	Typ.
5-1000 DC-1000	6.81 .06 8.0 10.0	59 40 40 30 33 22	55 30 40 22 30 20	17

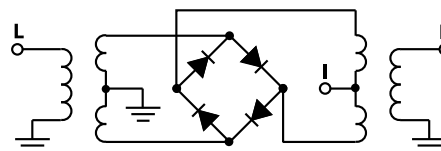
1 dB COMP: +1 dBm typ.
For phase detection, DC output positive with in-phase RF & LO.

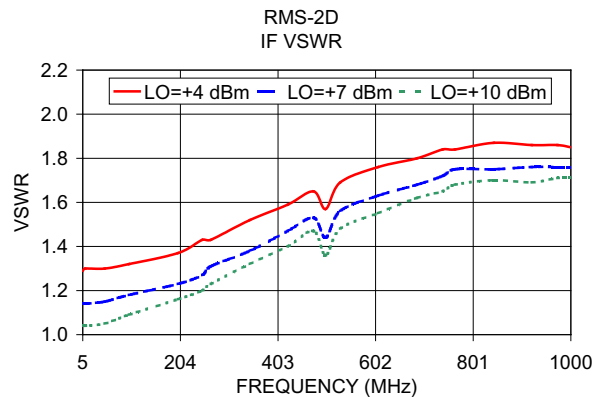
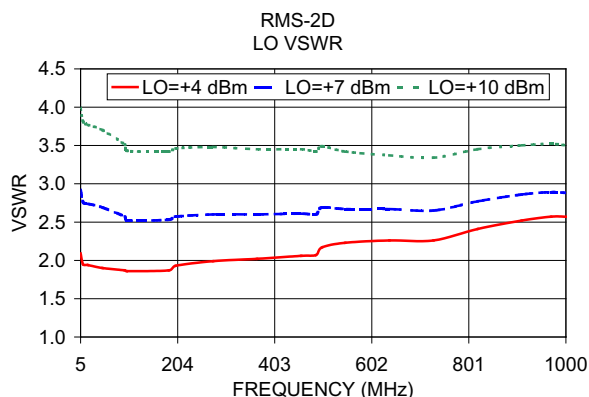
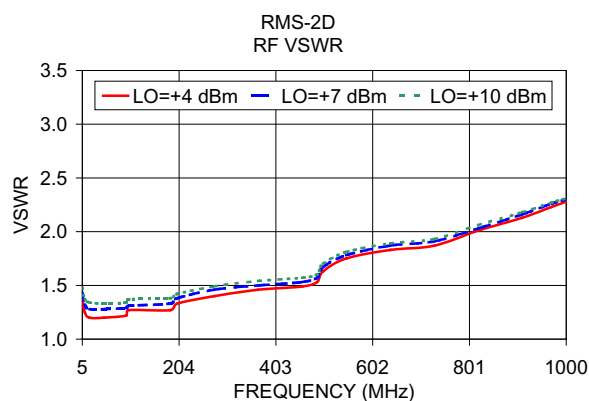
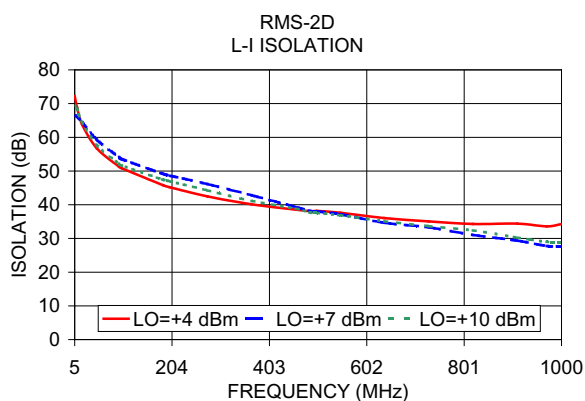
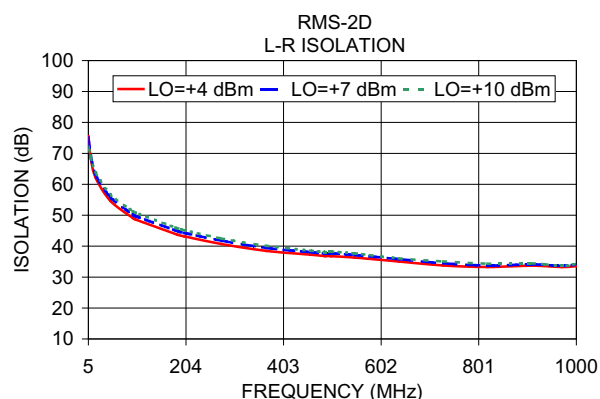
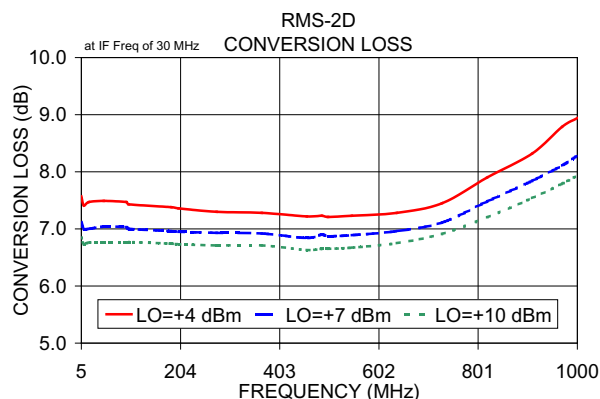
L = low range [f_L to 10 f_L]
M = mid band [$2f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
5.00	35.00	7.12	75.17	69.37	1.43
10.00	40.00	7.00	69.29	68.39	1.32
20.00	50.00	7.00	62.94	64.44	1.28
50.00	80.00	7.04	55.85	57.67	1.28
95.45	65.45	7.03	50.26	52.12	1.29
100.00	70.00	7.00	49.77	51.68	1.31
185.91	155.91	6.96	44.92	47.38	1.33
200.00	170.00	6.95	44.30	46.93	1.38
276.36	246.36	6.93	41.76	44.24	1.46
366.82	336.82	6.92	39.46	41.10	1.50
457.27	427.27	6.84	38.05	38.81	1.53
487.42	457.42	6.90	37.64	37.61	1.57
500.00	470.00	6.87	37.67	37.54	1.67
547.73	517.73	6.89	37.15	36.85	1.78
638.18	608.18	6.96	35.79	35.08	1.87
728.64	698.64	7.11	34.44	33.63	1.91
819.09	789.09	7.48	33.73	32.36	2.03
909.55	879.55	7.84	34.09	30.24	2.16
969.85	939.85	8.11	33.57	28.96	2.26
1000.00	970.00	8.28	34.04	28.80	2.30

Electrical Schematic





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