

Surface Mount Frequency Mixer

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

RMS-2D+



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

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

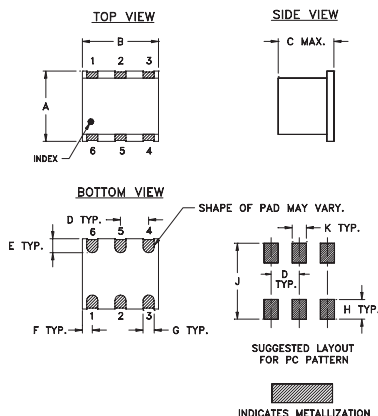
CASE STYLE: TT240

PRICE: \$7.25 ea. QTY (1-9)

+RoHS Compliant

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

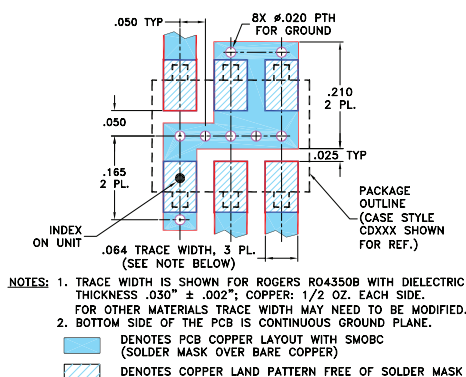
Outline Drawing



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)



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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

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

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]

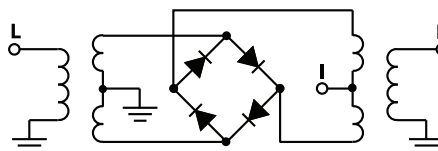
M = mid range [$10 f_L$ to $f_U/2$]

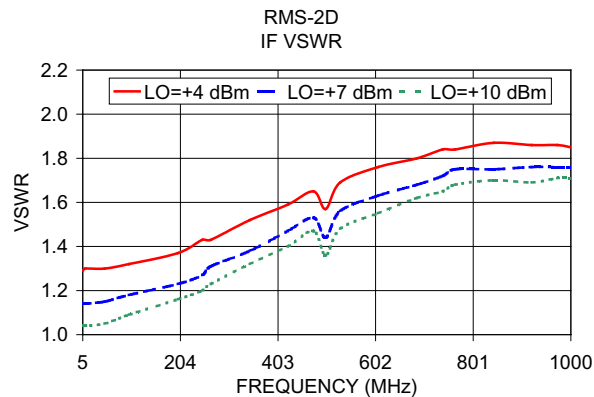
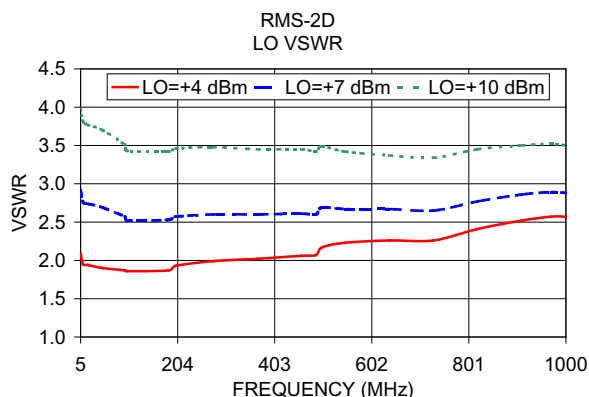
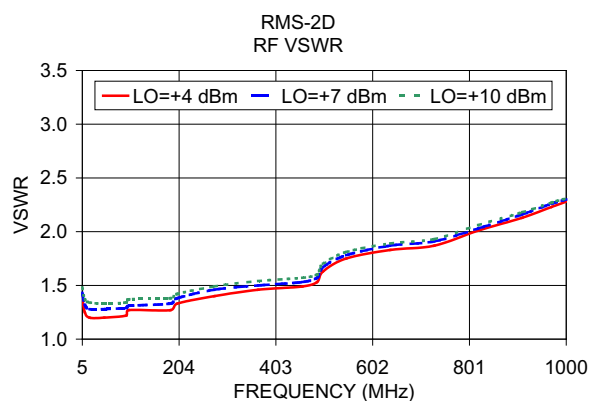
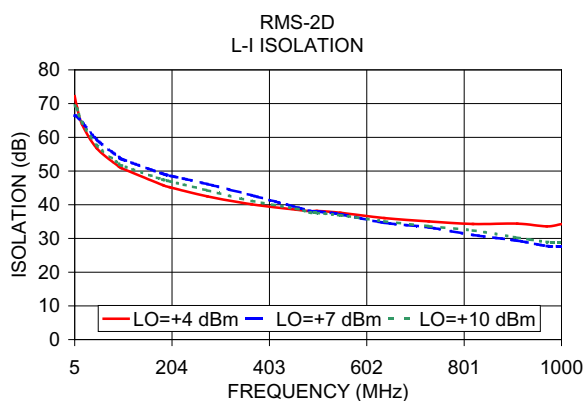
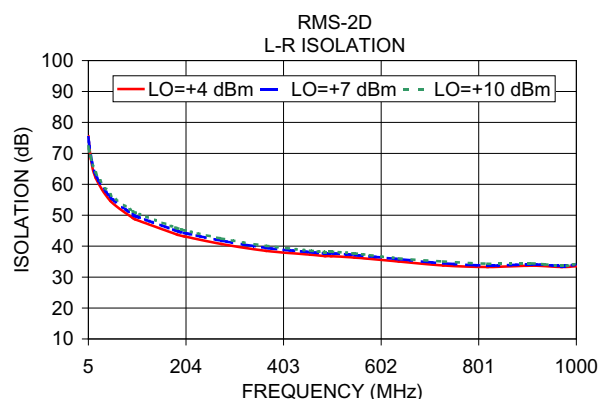
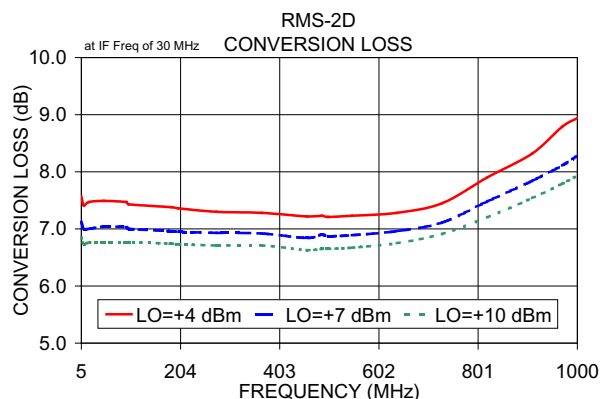
U = upper range [$f_U/2$ to f_U]

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	2.92
10.00	40.00	7.00	69.29	68.39	1.32	2.76
20.00	50.00	7.00	62.94	64.44	1.28	2.74
50.00	80.00	7.04	55.85	57.67	1.28	2.69
95.45	65.45	7.03	50.26	52.12	1.29	2.57
100.00	70.00	7.00	49.77	51.68	1.31	2.52
185.91	155.91	6.96	44.92	47.38	1.33	2.53
200.00	170.00	6.95	44.30	46.93	1.38	2.57
276.36	246.36	6.93	41.76	44.24	1.46	2.60
366.82	336.82	6.92	39.46	41.10	1.50	2.60
457.27	427.27	6.84	38.05	38.81	1.53	2.61
487.42	457.42	6.90	37.64	37.61	1.57	2.60
500.00	470.00	6.87	37.67	37.54	1.67	2.69
547.73	517.73	6.89	37.15	36.85	1.78	2.67
638.18	608.18	6.96	35.79	35.08	1.87	2.67
728.64	698.64	7.11	34.44	33.63	1.91	2.65
819.09	789.09	7.48	33.73	32.36	2.03	2.77
909.55	879.55	7.84	34.09	30.24	2.16	2.86
969.85	939.85	8.11	33.57	28.96	2.26	2.89
1000.00	970.00	8.28	34.04	28.80	2.30	2.88

Electrical Schematic





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