

Surface Mount Frequency Mixer

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

LRMS-1H+
LRMS-1H



CASE STYLE: QQQ130
PRICE: \$10.95 ea. QTY (1-9)

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

- low conversion loss, 6.25 dB typ.
- excellent L-R isolation, 44 dB typ.

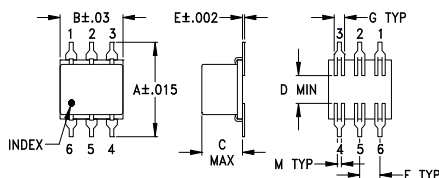
Applications

- HF/VHF/UHF
- instrumentation

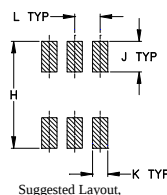
+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

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

Outline Drawing



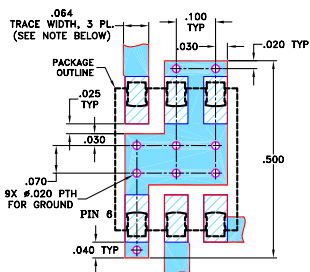
PCB Land Pattern



Outline Dimensions (inch)

A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27
H	J	K	L	M	wt	
.420	.120	.060	.100	.020	grams	
10.67	3.05	1.52	2.54	0.51	0.55	

Demo Board MCL P/N: TB-44+ Suggested PCB Layout (PL-083)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)
LO/RF $f_L - f_U$	Mid-Band m $\bar{X}$ σ Max. Total Range Max.	L M U Typ. Min. Typ. Min. Typ. Min.	L M U Typ. Min. Typ. Min. Typ. Min.	Typ.
2-500 DC-500	6.25 .034 7.0 8.5	55 44 44 25 33 20	50 34 45 25 37 22	25

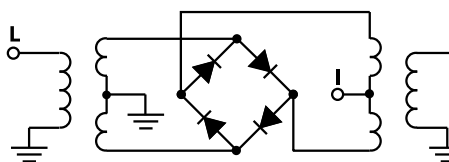
1 dB COMP.: +14 dBm typ.

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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
2.00	32.00	6.78	79.29	69.19	1.33
4.00	34.00	6.60	72.35	63.39	1.20
5.00	35.00	6.57	71.51	62.98	1.15
10.00	40.00	6.55	65.84	61.30	1.14
20.00	50.00	6.48	59.50	58.68	1.13
35.20	65.20	6.36	51.64	53.67	1.14
50.00	80.00	6.53	51.61	53.63	1.14
85.00	55.00	6.47	45.13	48.67	1.15
100.00	70.00	6.48	44.98	48.52	1.17
134.80	104.80	6.32	41.19	46.50	1.19
184.60	154.60	6.35	38.78	44.90	1.22
200.00	170.00	6.40	38.62	44.42	1.23
234.40	204.40	6.30	36.44	41.20	1.24
250.00	220.00	6.22	36.14	41.01	1.26
284.20	254.20	6.22	35.11	38.57	1.30
334.00	304.00	6.18	33.38	37.07	1.34
383.80	353.80	6.11	32.33	33.77	1.39
433.60	403.60	6.16	32.22	31.10	1.44
483.40	453.40	6.45	31.29	29.09	1.47
500.00	470.00	6.45	30.80	28.30	1.49

Electrical Schematic



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IF/RF MICROWAVE COMPONENTS

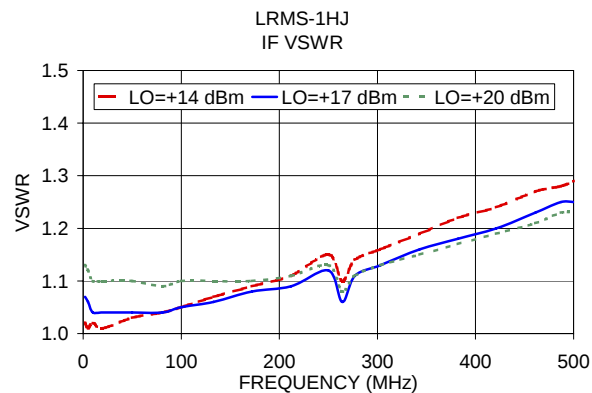
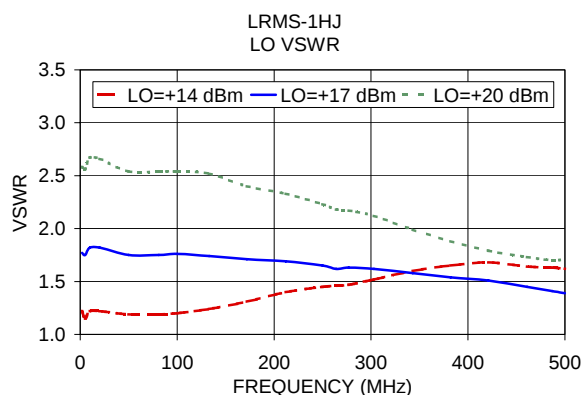
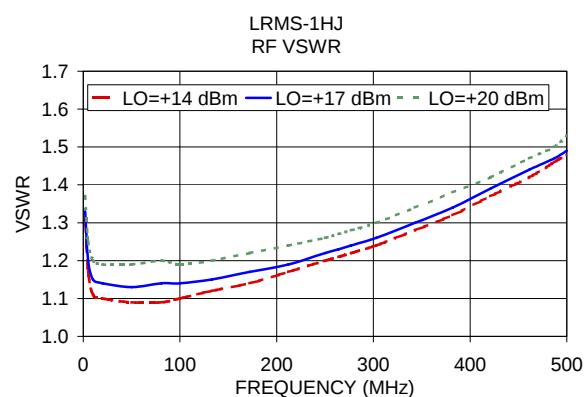
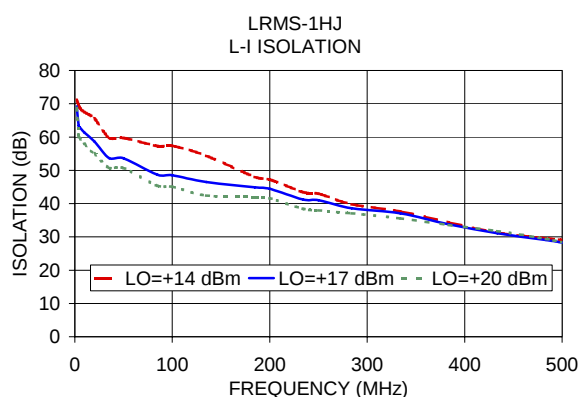
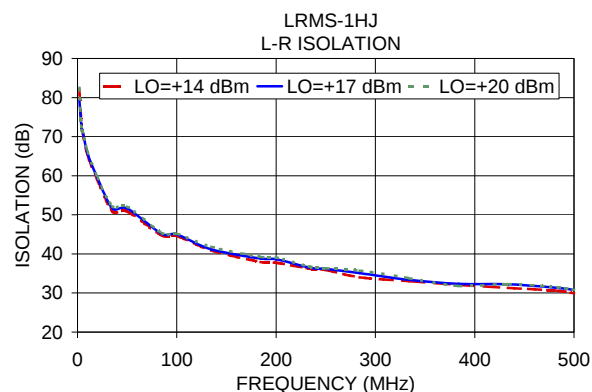
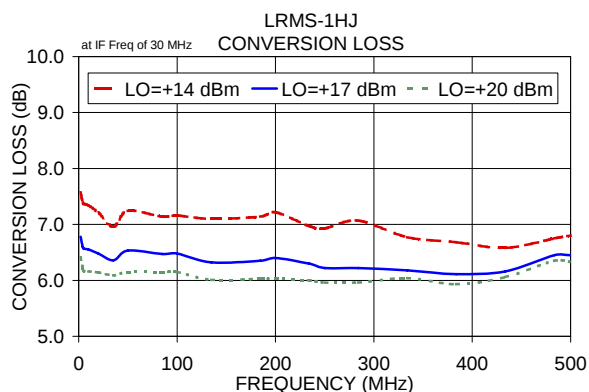
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For detailed performance specs
& shopping online see web site

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Performance Charts

LRMS-1H+ LRMS-1H



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