

# Surface Mount Frequency Mixer

## RMS-42MH+ RMS-42MH

Level 13 (LO Power +13 dBm) 800 to 4200 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

### Features

- wide frequency range, 800-4200 MHz
- conversion loss, 5.3 dB typ.
- small size, 0.25"x0.31"x0.2"

### Applications

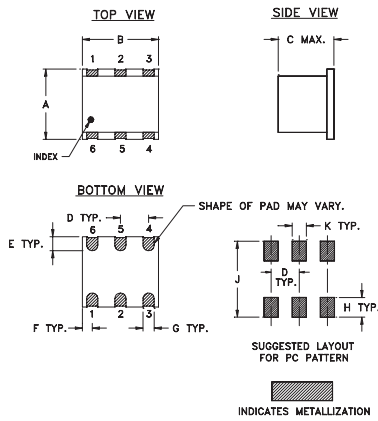
- satellite communications
- receivers/transmitters

CASE STYLE: TT240  
PRICE: \$24.95 ea. QTY (1-9)

+ 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.

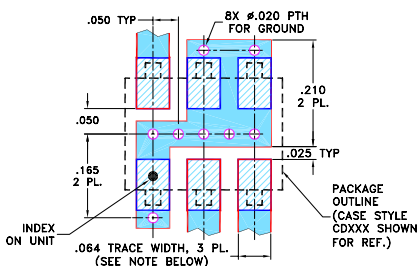
### Outline Drawing



### 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: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .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.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - 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)				
		L		U		L		U						
LO/RF	IF	Mid-Band m		Total Range Max.		Typ. Min.		Typ. Min.		Typ.				
$f_c - f_u$	$\bar{X}$	$\sigma$	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.				
800-4200	DC-800	5.3	.20	9.0	10.8	35	25	28	17	18	10	15	7	19

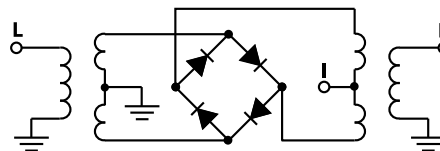
1 dB COMP: +9 dBm typ.  
For phase detection, DC output positive with in-phase RF & LO.

L = 800-2100MHz  
m = 1000-2000MHz  
U = 2100-4200MHz

### 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
10.00	40.00	7.94	20.28	2.29	2.30	
20.00	50.00	7.65	27.98	1.39	1.76	
200.00	170.00	7.32	31.88	1.38	1.54	
295.00	265.00	7.53	32.40	1.48	1.47	
500.00	470.00	7.77	31.96	1.65	1.42	
722.50	692.50	7.70	32.05	1.88	1.42	
1000.00	970.00	7.67	32.59	2.09	1.45	
1150.00	1120.00	7.63	32.84	2.18	1.37	
1435.00	1405.00	6.82	35.06	2.18	1.47	
1577.50	1547.50	7.65	34.54	2.08	1.58	
1862.50	1832.50	7.75	36.03	2.74	1.73	
2005.00	1975.00	8.44	34.15	2.78	1.95	
2290.00	2260.00	8.70	30.53	30.66	2.44	2.32
2500.00	2470.00	8.40	31.06	30.74	2.78	2.05
2717.50	2687.50	8.50	29.50	31.68	3.21	2.02
3000.00	2970.00	8.07	33.65	32.53	3.16	1.58
3145.00	3115.00	7.62	33.58	31.08	3.37	1.34
3500.00	3470.00	7.57	32.49	26.48	3.33	1.23
3857.50	3827.50	7.73	28.41	24.34	2.13	1.96
4200.00	4170.00	8.84	29.31	25.00	1.19	2.35

### Electrical Schematic



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs  
& shopping online see web site

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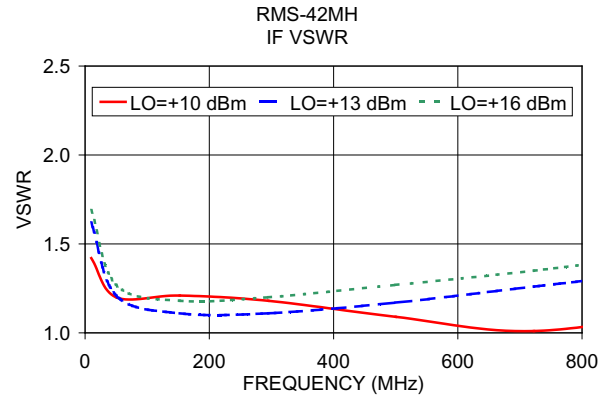
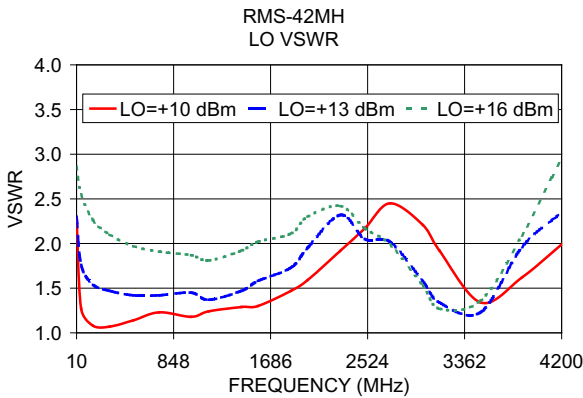
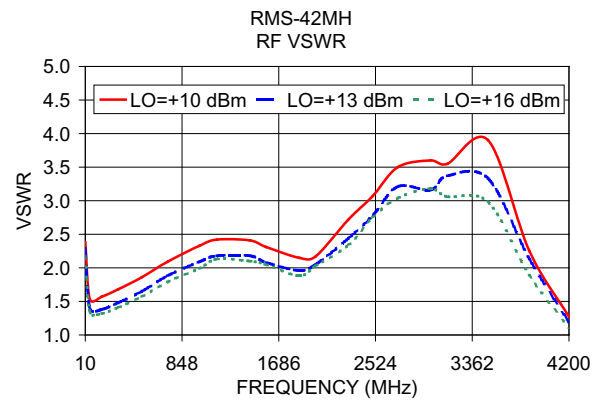
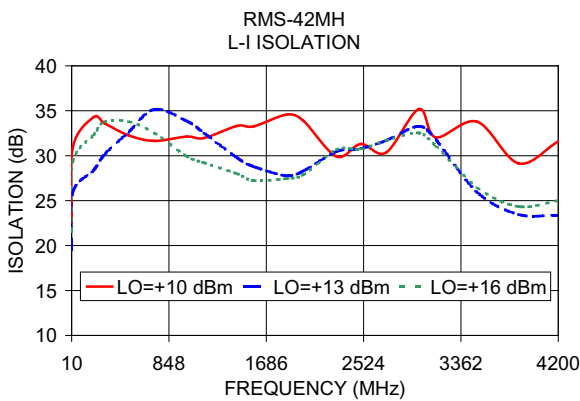
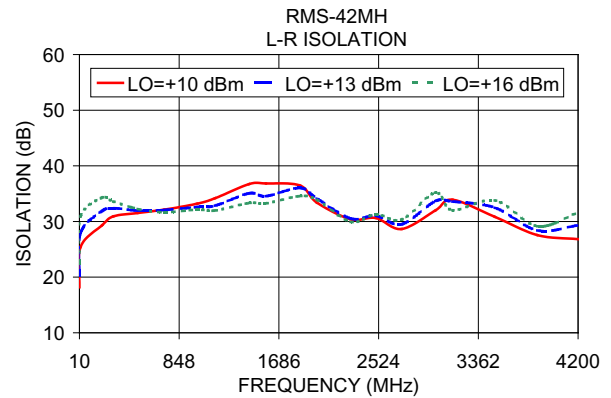
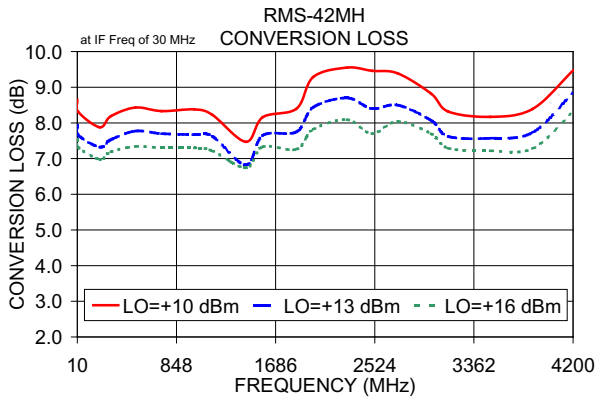
IF/RF MICROWAVE COMPONENTS

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# Performance Charts

# RMS-42MH+ RMS-42MH



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