

Plug-In

# Frequency Mixer

## TFM-42MH+

Level 13 (LO Power +13 dBm) 10 to 4200 MHz



Generic photo used for illustration purposes only

CASE STYLE: B13

**+RoHS Compliant**

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

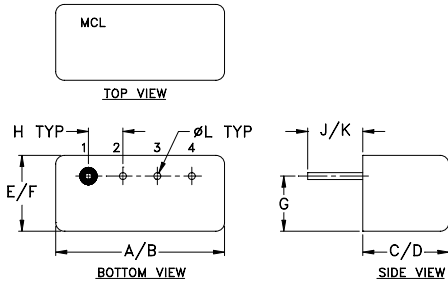
### Maximum Ratings

Operating Temperature	-55°C to 100°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	2
GROUND	3
CASE GROUND	3

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.480	.500	.390	.405	.210	.230
12.19	12.70	9.91	10.29	5.33	5.84
G	H	J	K	L	wt
.16	.100	.14	.20	.020	grams
4.06	2.54	3.56	5.08	0.51	2.3

### Features

- low conversion loss, 7.46 dB typ.
- wideband, 10 to 4200 MHz
- excellent isolation, 40 dB typ. L-R, 35 dB typ. L-I
- rugged welded construction
- hermetically sealed

### Applications

- satellite down converters
- cellular
- line of sight links
- PCS

### Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF	IF	Mid-Band		Total Range Max.	Typ. Min.	L		M		U		L		M		U	
$f_L$ - $f_U$		$\bar{X}$	$\sigma$			Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
10-4200	10-1000	7.46	0.12	8.5	11	35	25	40	25	35	25	35	20	35	25	27	20

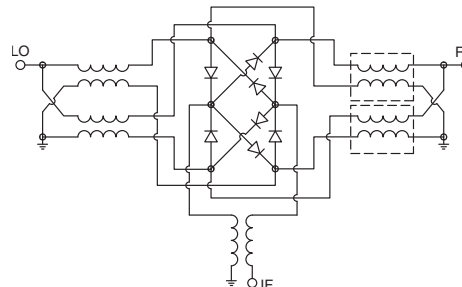
1 dB COMP.: +9 dBm typ.

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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
10.00	40.00	7.94	20.28	21.61	2.29	2.30
20.00	50.00	7.65	27.98	29.30	1.39	1.76
200.00	170.00	7.32	31.88	32.33	1.38	1.54
295.00	265.00	7.53	32.40	33.77	1.48	1.47
500.00	470.00	7.77	31.96	33.79	1.65	1.42
722.50	692.50	7.70	32.05	32.52	1.88	1.42
1000.00	970.00	7.67	32.59	29.95	2.09	1.45
1150.00	1120.00	7.63	32.84	29.21	2.18	1.37
1435.00	1405.00	6.82	35.06	28.00	2.18	1.47
1577.50	1547.50	7.65	34.54	27.23	2.08	1.58
1862.50	1832.50	7.75	36.03	27.46	1.96	1.73
2005.00	1975.00	8.44	34.15	27.88	2.05	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



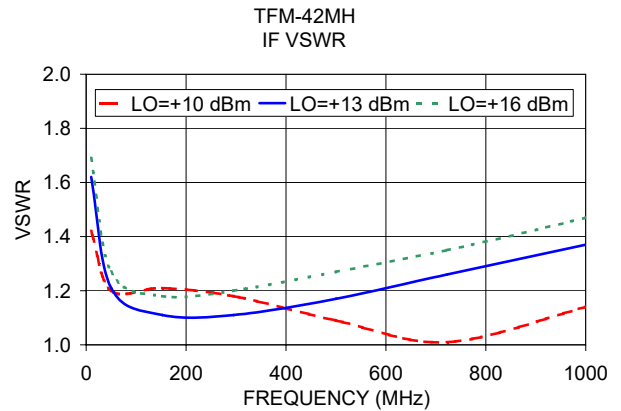
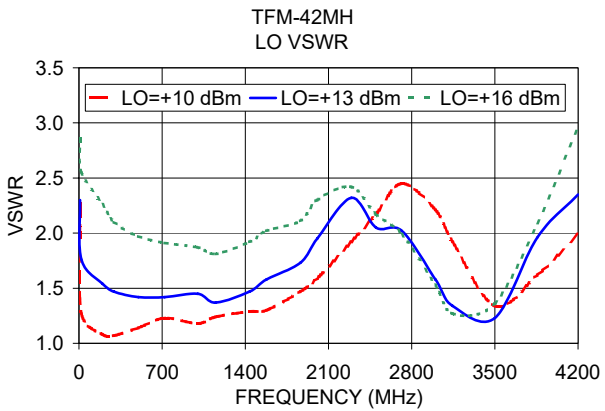
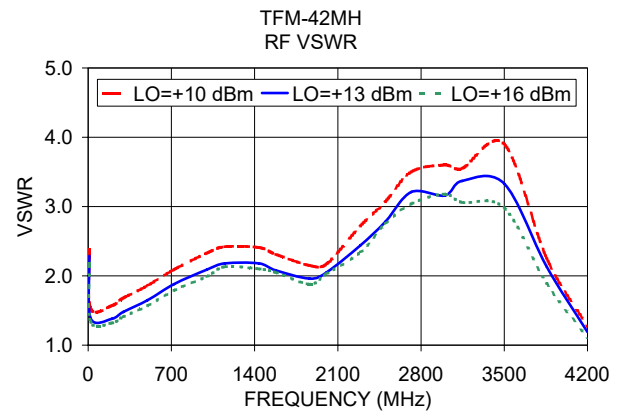
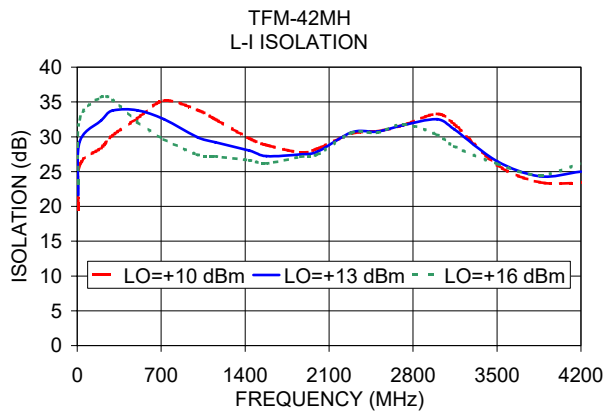
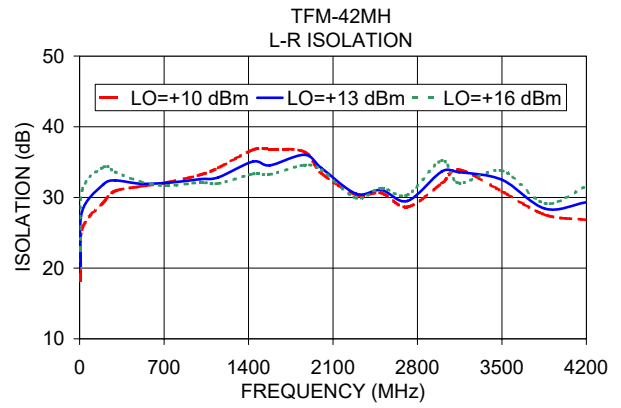
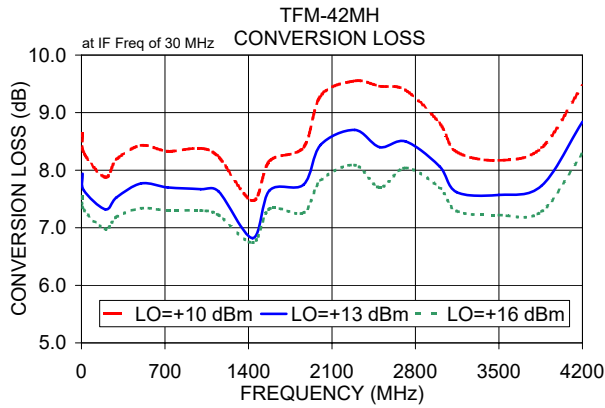
### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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