

Plug-In

# Frequency Mixer

Level 13 (LO Power +13 dBm) 1 to 250 MHz

## TFM-3MH+



CASE STYLE: B02  
PRICE: \$29.20 ea. QTY (1-9)

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

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

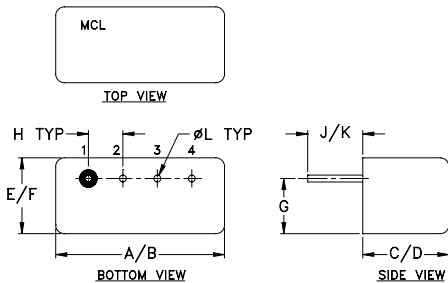
### Maximum Ratings

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	4
RF	1
IF	2
GROUND	3
CASE GROUND	3

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.480	.500	.240	.255	.210	.230
12.19	12.70	6.10	6.48	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	1.9

### Features

- low conversion loss, 4.79 dB typ.
- good L-R isolation, 40 dB typ.
- rugged welded construction
- hermetically sealed

### Applications

- VHF
- maritime, defense & federal communications

### Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)											
LO/RF	IF	Mid-Band			Total Range Max.	L			M			U			L			M			U		
$f_L$ - $f_U$		$\bar{X}$	$\sigma$	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.		
1-250	DC-250	4.79	0.23	7.0	8.5	50	45	40	30	28	23	45	40	35	25	26	20						

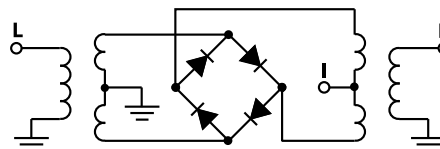
1 dB COMP.: +9 dBm typ.

L = low range [ $f_L$  to  $10 f_L$ ]  
m = mid band [ $2 f_L$  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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
0.10	30.10	5.15	73.00	60.91	1.33	1.72
1.00	31.00	4.57	73.00	60.66	1.33	1.65
5.00	35.00	4.68	73.00	60.53	1.33	1.74
10.00	40.00	4.73	73.00	60.07	1.32	1.73
20.00	50.00	4.80	65.05	58.37	1.32	1.68
33.42	63.42	4.67	59.52	55.39	1.32	1.67
50.00	80.00	4.68	55.49	52.20	1.32	1.64
58.41	88.41	4.65	53.27	50.21	1.31	1.59
66.74	96.74	4.68	50.90	48.39	1.29	1.64
83.40	53.40	4.66	46.98	45.26	1.29	1.62
100.06	70.06	4.54	44.09	42.57	1.26	1.64
116.72	86.72	4.62	41.59	40.51	1.25	1.63
133.38	103.38	4.69	40.36	38.94	1.23	1.64
150.04	120.04	4.74	38.78	37.88	1.21	1.64
166.70	136.70	4.82	37.43	36.81	1.19	1.63
183.36	153.36	4.90	36.56	35.51	1.16	1.64
200.00	170.00	4.89	36.59	35.86	1.14	1.65
216.68	186.68	4.88	35.77	35.35	1.12	1.65
233.34	203.34	4.84	33.97	33.58	1.09	1.67
250.00	220.00	4.93	33.05	32.71	1.08	1.68

### Electrical Schematic



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

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

For detailed performance specs & shopping online see web site

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