

Plug-In

# Frequency Mixer

Level 17 (LO Power +17 dBm) 0.1 to 250 MHz

TFM-3H+



CASE STYLE: B02  
PRICE: \$31.50 ea. QTY (1-9)

**+RoHS Compliant**

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

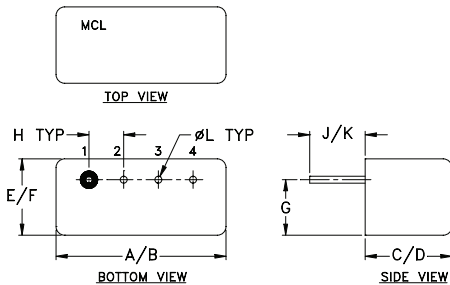
## Maximum Ratings

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	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, 4.58 dB typ.
- good L-R isolation, 40 dB typ.
- rugged welded construction
- hermetically sealed

## Applications

- VHF
- aviation
- 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	L	M	U	L	M	U							
$f_L$ - $f_U$		$\bar{X}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.							
0.1-250	DC-250	4.58	0.11	7.0	8.5	50	45	40	30	28	23	45	40	35	25	26	20

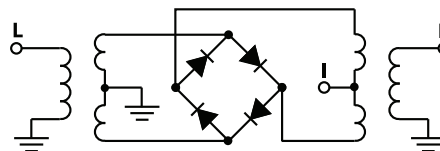
1 dB COMP.: +14 dBm typ.

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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
0.10	30.10	5.43	66.42	66.28	1.40	1.51
5.00	35.00	4.99	61.64	64.07	1.40	1.46
10.00	40.00	4.91	60.33	61.62	1.38	1.52
20.00	50.00	4.94	61.22	60.51	1.39	1.51
34.57	64.57	4.92	57.23	56.07	1.39	1.52
50.00	80.00	4.92	53.98	52.73	1.39	1.48
60.42	90.42	4.92	52.33	50.92	1.38	1.45
69.04	99.04	4.87	51.05	49.22	1.38	1.47
86.27	56.27	4.80	48.52	46.16	1.35	1.43
100.00	70.00	4.79	46.72	44.44	1.35	1.41
103.51	73.51	4.84	46.41	44.07	1.33	1.44
129.36	99.36	4.89	43.29	41.27	1.31	1.45
146.59	116.59	4.91	41.82	40.17	1.30	1.50
155.21	125.21	4.90	41.17	39.68	1.29	1.46
172.44	142.44	5.00	39.95	38.86	1.24	1.46
189.68	159.68	5.08	39.60	38.24	1.22	1.45
224.15	194.15	5.21	37.56	36.93	1.21	1.47
232.76	202.76	5.26	36.71	36.82	1.18	1.52
241.38	211.38	5.24	35.87	36.43	1.16	1.53
250.00	220.00	5.23	35.46	36.00	1.14	1.52

## Electrical Schematic



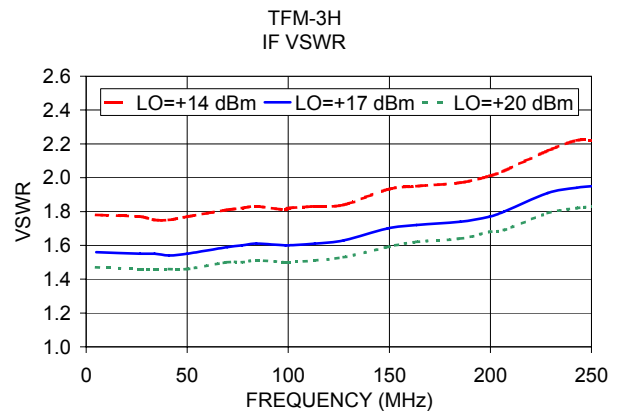
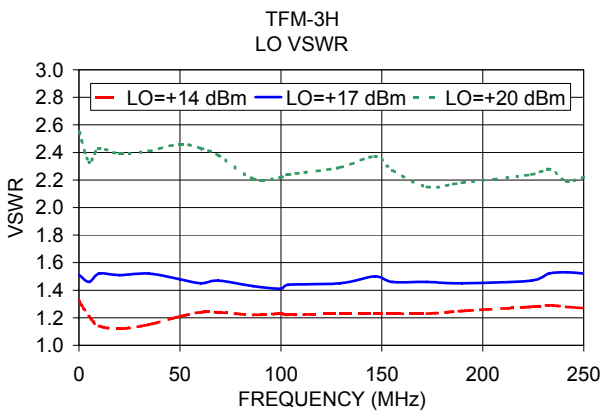
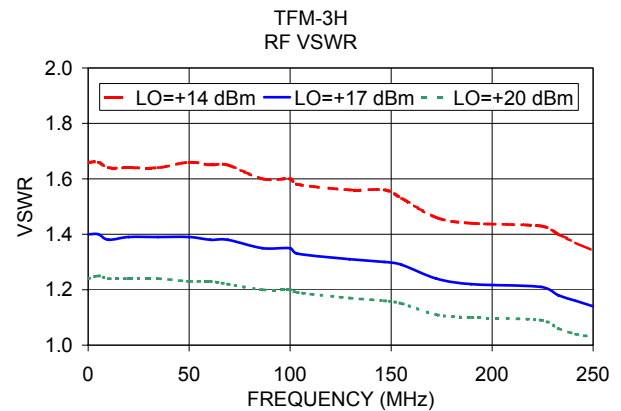
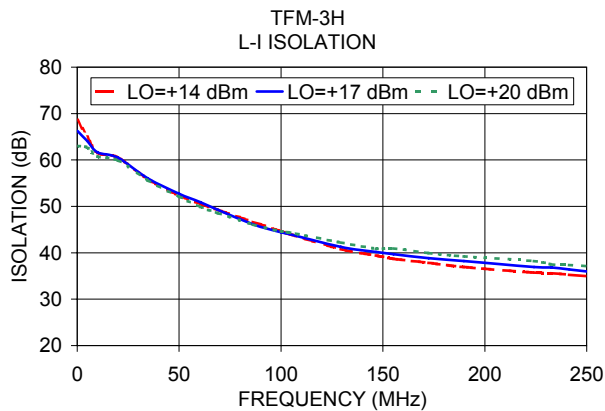
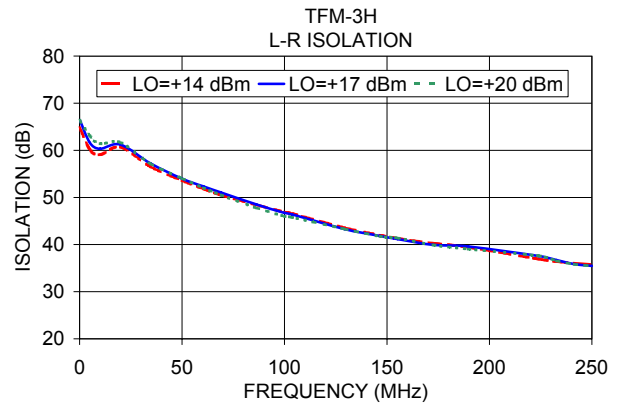
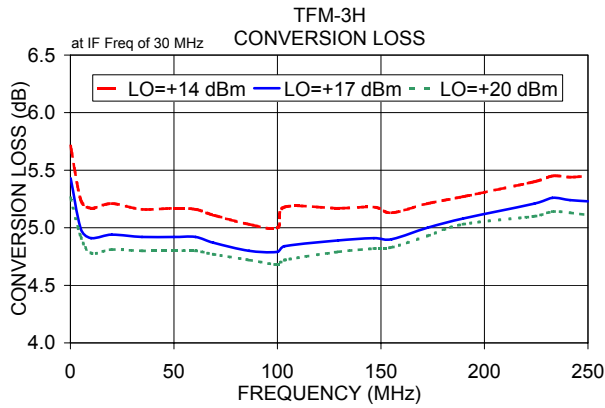
**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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Page 1 of 2



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IF/RF MICROWAVE COMPONENTS

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