

Plug-In

# Frequency Mixer

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

TFM-1H+



CASE STYLE: B13

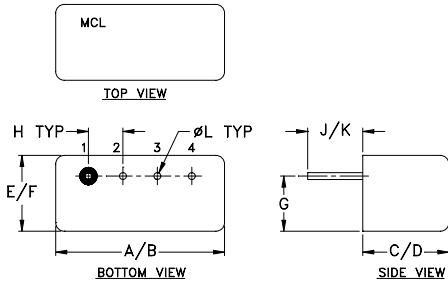
## Maximum Ratings

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

## Applications

- VHF/UHF
- aviation
- federal & defense communications

## +RoHS Compliant

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

## 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.		
2-500	DC-500	6.14	0.11	7.5	8.5	50	45	40	30	30	20	45	40	35	25	25	20						

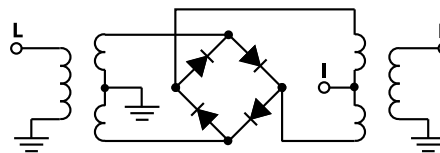
1 dB COMP.: +14 dBm typ.

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  $f_U$ ]  
m = mid band [ $2f_L$  to  $f_U/2$ ]

## 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
2.00	32.00	6.30	62.98	52.28	1.22	1.67
5.00	35.00	5.95	62.06	52.79	1.10	1.60
10.00	40.00	5.92	60.47	52.35	1.03	1.63
20.00	50.00	5.91	57.14	51.13	1.02	1.61
34.13	64.13	5.81	53.27	49.30	1.04	1.58
50.00	80.00	5.72	50.24	47.27	1.06	1.57
66.26	96.26	5.66	48.03	45.61	1.07	1.55
82.33	122.33	5.71	46.33	44.27	1.08	1.54
100.00	140.00	5.63	44.99	43.26	1.09	1.57
130.52	170.52	5.61	43.18	41.91	1.10	1.55
162.65	208.65	5.61	41.46	40.45	1.10	1.55
200.00	260.00	5.60	40.12	39.22	1.08	1.60
259.04	328.04	5.42	38.10	37.51	1.07	1.67
307.24	392.24	5.62	37.54	36.13	1.06	1.70
355.43	455.43	5.86	37.41	36.94	1.05	1.76
387.56	491.56	5.92	36.35	35.99	1.04	1.82
435.76	545.76	5.81	35.35	33.91	1.05	1.84
467.89	587.89	5.90	36.34	33.81	1.06	1.85
483.95	613.95	6.08	36.44	33.54	1.08	1.87
500.00	640.00	6.27	36.27	33.21	1.09	1.90

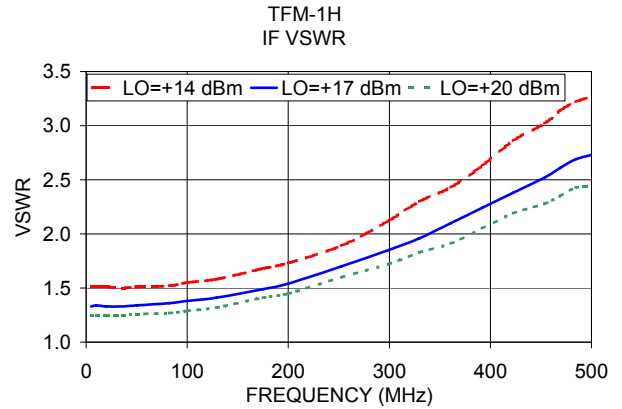
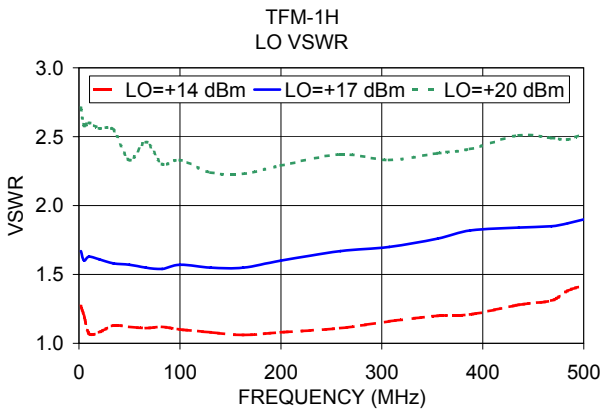
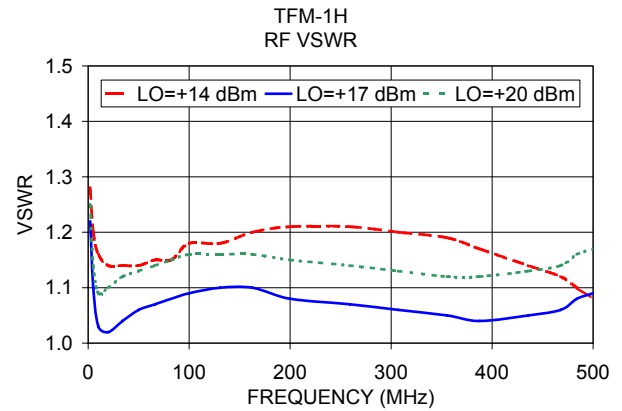
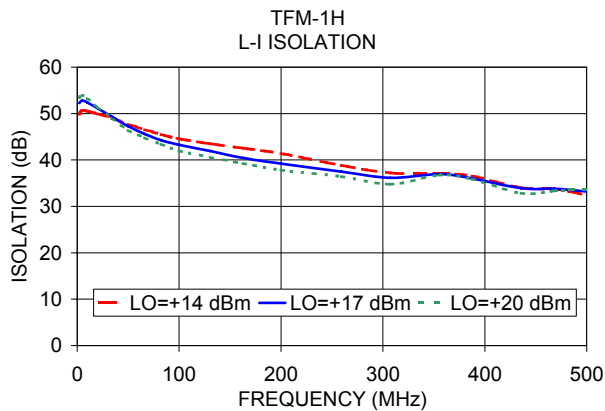
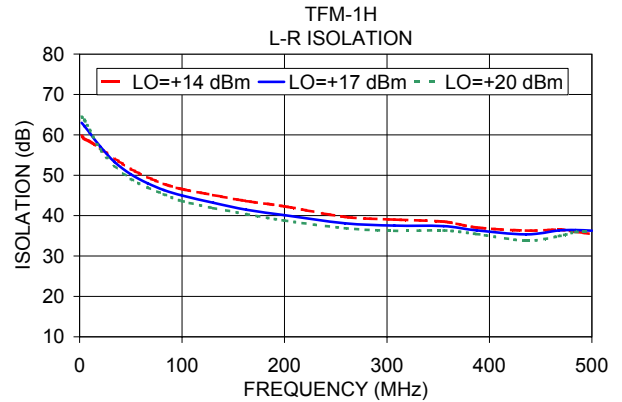
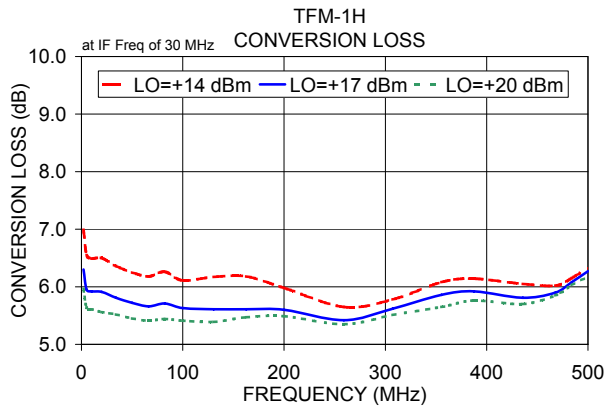
## Electrical Schematic



## 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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)





**Notes**

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

