

# Frequency Mixer

Level 7 (LO Power +7 dBm) 5 to 1250 MHz

TFM-4+



Generic photo used for illustration purposes only

CASE STYLE: B02

**+RoHS Compliant**

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

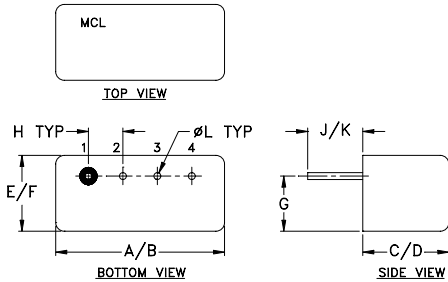
## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
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, 6.47 dB typ.
- wideband, 5 to 1250 MHz
- good L-R isolation, 40 dB typ.
- rugged welded construction
- hermetically sealed
- phase detection, positive polarity

## Applications

- UHF TV
- cellular
- ISM/GSM
- GPS

## 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.							
5-1250	DC-1250	6.47	0.05	7.5	8.5	50	45	40	30	30	25	45	40	35	25	25	20

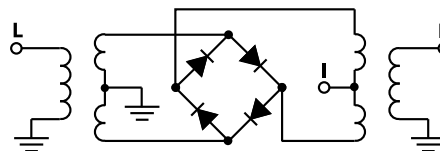
1 dB COMP.: +1 dBm typ.  
For phase detection, DC output polarity is positive with in-phase LO and RF signals.

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

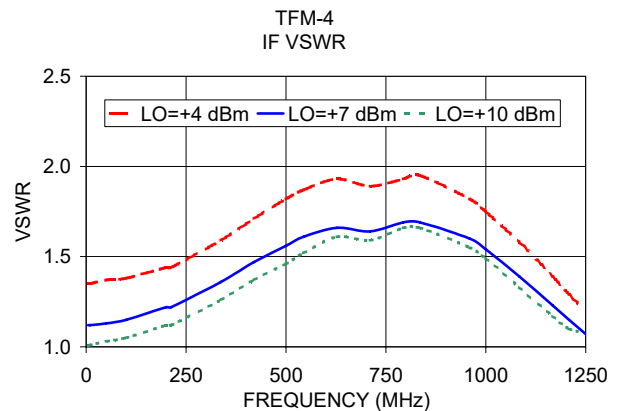
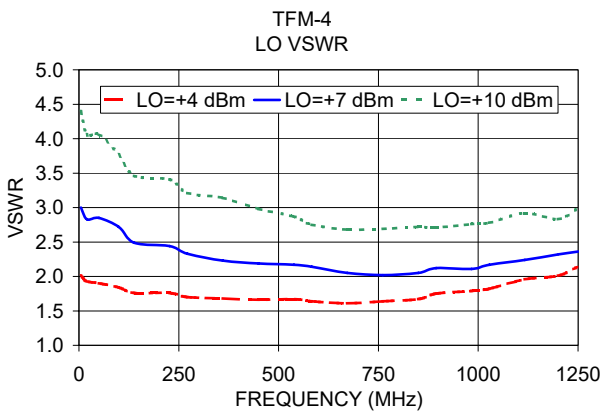
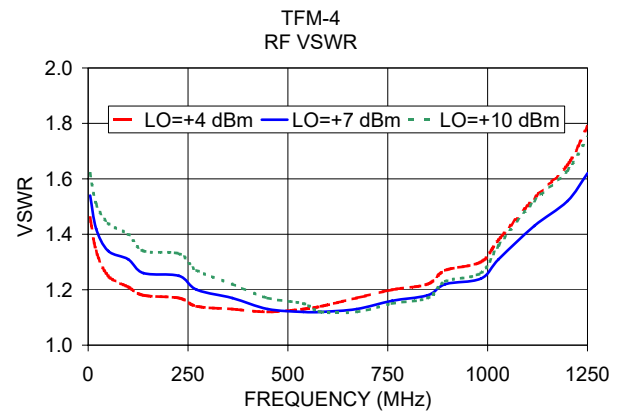
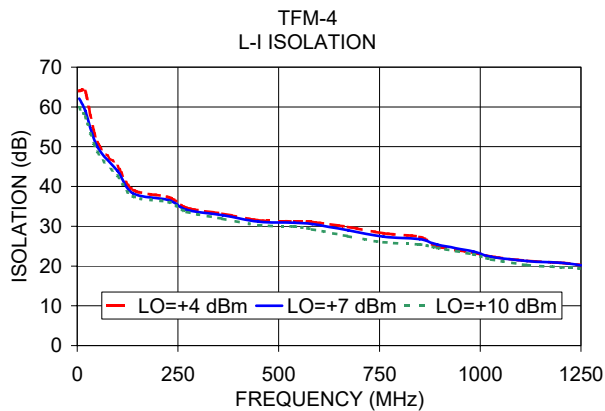
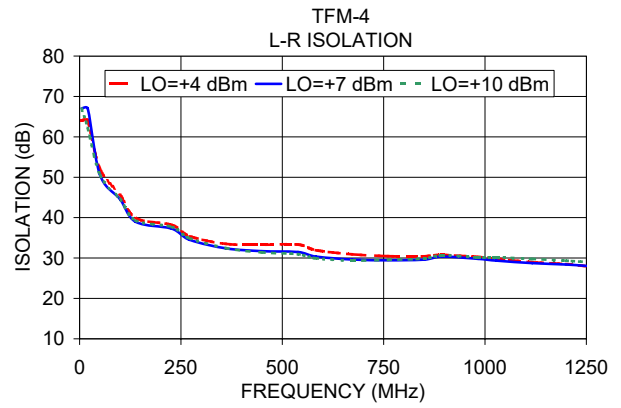
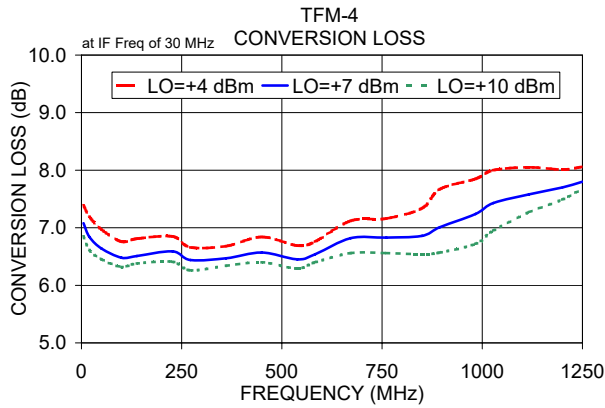
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
5.00	35.00	7.08	>67.00	62.10	1.54	3.00
20.00	50.00	6.84	>67.00	59.11	1.42	2.83
50.00	80.00	6.64	50.64	49.95	1.34	2.85
100.00	70.00	6.48	44.54	43.90	1.31	2.72
138.39	108.39	6.51	38.97	38.26	1.26	2.49
227.32	197.32	6.59	37.28	36.56	1.25	2.44
271.78	241.78	6.44	34.49	34.10	1.20	2.33
360.71	330.71	6.47	32.40	32.75	1.17	2.23
449.64	419.64	6.57	31.70	31.16	1.13	2.19
538.57	508.57	6.45	31.48	30.87	1.12	2.17
583.03	553.03	6.54	30.37	30.53	1.12	2.14
671.96	641.96	6.82	29.62	29.00	1.13	2.05
760.89	730.89	6.83	29.45	27.36	1.16	2.02
849.82	819.82	6.86	29.60	26.76	1.18	2.05
894.28	864.28	7.01	30.37	25.36	1.22	2.12
983.21	953.21	7.24	29.78	23.67	1.24	2.11
1027.70	997.70	7.43	29.36	22.34	1.31	2.17
1116.60	1086.60	7.58	28.75	21.27	1.43	2.24
1200.00	1170.00	7.70	28.39	20.82	1.52	2.32
1250.00	1220.00	7.80	28.05	20.19	1.62	2.36

## 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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