

# Coaxial Frequency Mixer

Level 17 (LO Power +17 dBm) 5 to 1200 MHz

## ZFM-4H+



SMA version shown  
CASE STYLE: K18

Connectors	Model
BNC	ZFM-4H+
SMA	ZFM-4H-S+
<b>BRACKET (OPTION "B")</b>	

### 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.	

### Coaxial Connections

LO	1
RF	2
IF	3

### Features

- low conversion loss, 4.97 dB typ.
- good L-R isolation, 35 dB typ, L-I, 35 dB typ.
- wideband, 5 to 1200 MHz
- rugged shielded case

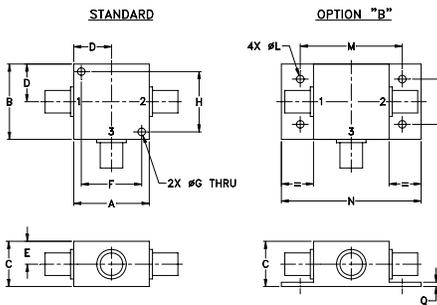
### Applications

- VHF/UHF
- cellular
- instrumentation
- GPS
- federal & defense communications

### +RoHS Compliant

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

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.00	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	70.0

### 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	
$f_L-f_U$		$\bar{X}$	$\sigma$			Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
5-1200	DC-1200	6.59	0.03	8.0	9.0	50	40	35	25	30	20	50	40	35	20	30	20

1 dB COMP.: +14 dBm typ.

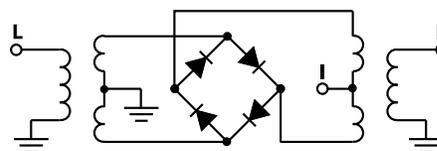
For phase detection: DC output has positive with in-phase LO and RF signals

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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
10.1	40.1	7.31	68.49	65.02	1.44	1.65
30.1	60.1	7.41	62.74	61.70	1.48	1.58
70.1	100.1	7.27	58.08	57.43	1.53	1.52
130.1	160.1	7.26	54.30	54.15	1.46	1.56
210.1	240.1	7.09	50.37	51.33	1.49	1.57
270.1	300.1	6.90	48.42	49.71	1.51	1.54
330.1	360.1	6.95	46.73	48.36	1.48	1.56
390.1	420.1	6.72	45.73	46.94	1.45	1.58
470.1	500.1	6.58	44.28	44.09	1.41	1.62
570.1	600.1	6.71	43.16	42.65	1.41	1.68
650.1	680.1	6.76	42.76	41.88	1.38	1.74
710.1	740.1	6.88	42.70	41.40	1.34	1.80
770.1	800.1	6.86	42.34	40.92	1.32	1.83
830.1	860.1	7.03	41.64	40.87	1.33	1.85
890.1	920.1	7.28	40.53	40.72	1.34	1.88
950.1	980.1	7.44	39.87	40.58	1.40	1.91
1010.1	1040.1	7.57	39.31	41.31	1.44	1.95
1090.1	1120.1	7.55	38.73	41.13	1.47	2.01
1170.1	1200.1	7.88	37.96	41.66	1.57	2.10
1210.1	1240.1	8.21	37.28	41.74	1.65	2.11

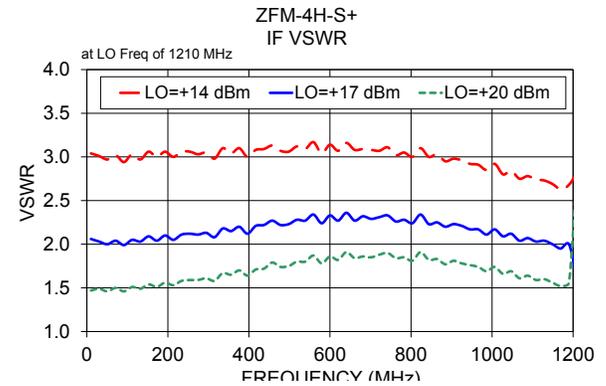
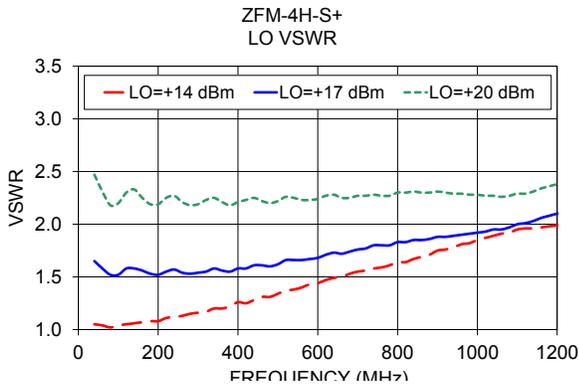
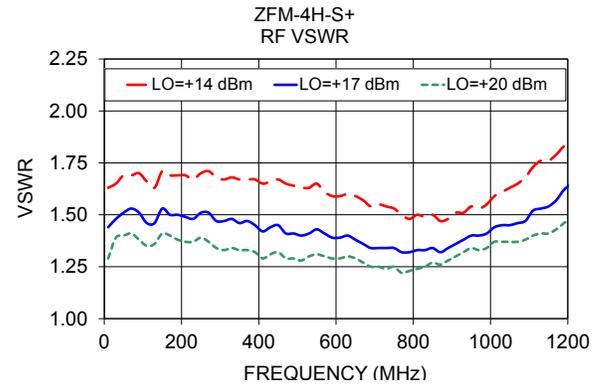
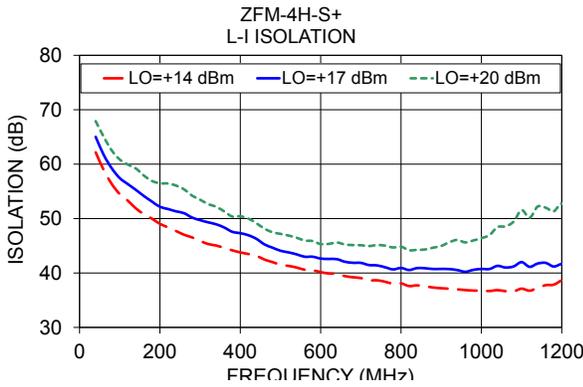
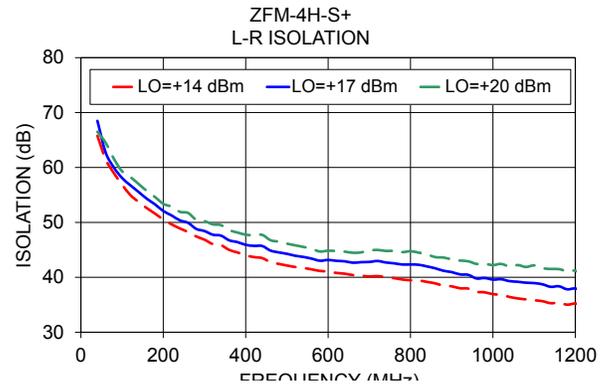
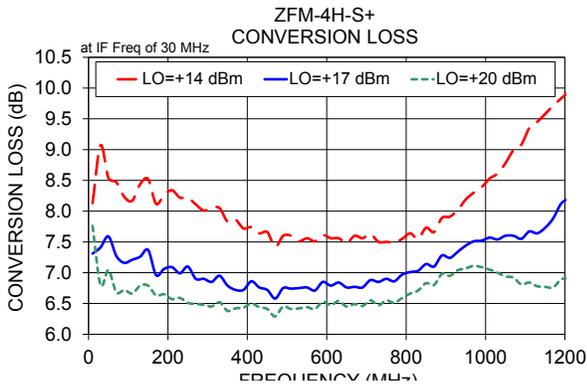
### Electrical Schematic



### 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)