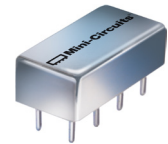


Plug-In

# Frequency Mixer

## TAK-1WH+

Level 17 (LO Power +17 dBm) 5 to 750 MHz



CASE STYLE: A05

### 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	8
RF	1
IF	3,4^
GROUND	2,5,6,7
CASE GROUND	2,5,6,7

^ pins must be connected together externally

### Features

- low conversion loss, 5.71 dB typ.
- high isolation, 40 dB typ. L-R, 35 dB typ. L-I
- rugged welded construction
- hermetically sealed

### Applications

- VHF/UHF
- FM radio
- defense & federal communication
- instrumentation

**+RoHS Compliant**

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

### Electrical Specifications

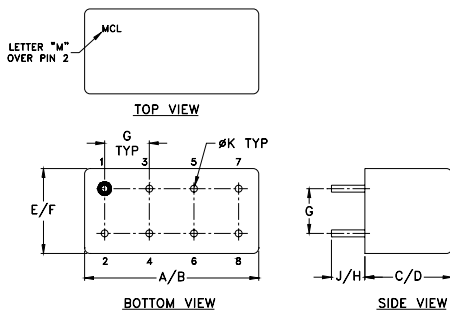
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF $f_L$ - $f_U$	IF	Mid-Band m		Total Range Max.	Max.	L		M		U		L		M		U	
		$\bar{X}$	$\sigma$			Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
5-750	DC-750	5.71	0.08	7.5	9.0	50	40	40	30	30	25	45	35	35	25	30	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  $f_U/2$ ]

### Outline Drawing



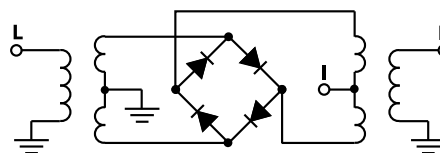
### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.770	.800	.240	.250	.370	.400
19.56	20.32	6.10	6.35	9.40	10.16
G	H	J	K	wt	
.200	.20	.14	.031	grams	
5.08	5.08	3.56	0.79	3.7	

### 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
5.00	35.00	5.75	63.53	62.84	1.14	1.53
10.00	40.00	5.93	59.56	57.61	1.06	1.52
20.00	50.00	5.97	51.08	48.85	1.03	1.41
50.00	80.00	5.91	46.53	44.54	1.04	1.54
100.00	70.00	5.77	42.94	41.21	1.05	1.48
125.84	95.84	5.75	40.60	39.07	1.05	1.48
175.77	145.77	5.75	37.40	36.16	1.06	1.43
225.70	195.70	5.81	35.63	34.27	1.08	1.45
250.67	220.67	5.69	35.33	33.54	1.10	1.40
300.60	270.60	5.68	34.13	32.33	1.14	1.51
350.54	320.54	6.07	33.75	30.78	1.19	1.44
400.47	370.47	6.22	33.94	29.35	1.24	1.56
450.41	420.41	6.24	33.76	28.19	1.28	1.60
500.00	470.00	6.26	35.44	29.36	1.32	1.59
525.31	495.31	6.57	33.37	28.37	1.35	1.68
550.27	520.27	6.80	31.48	26.00	1.37	1.74
600.21	570.21	6.81	29.25	22.84	1.39	1.68
650.14	620.14	6.95	29.21	20.68	1.38	1.89
700.08	670.08	7.41	32.78	22.79	1.35	1.94
750.00	720.00	7.73	31.78	24.62	1.29	1.96

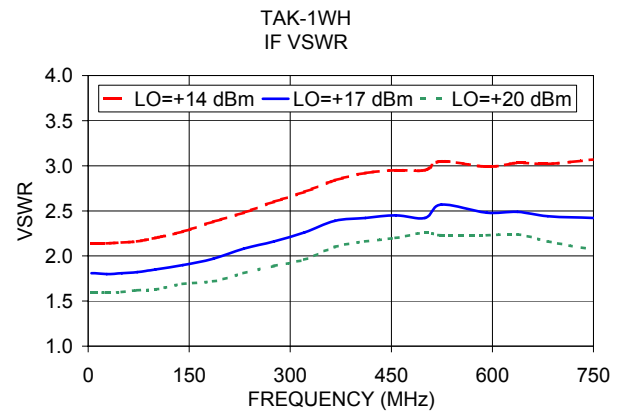
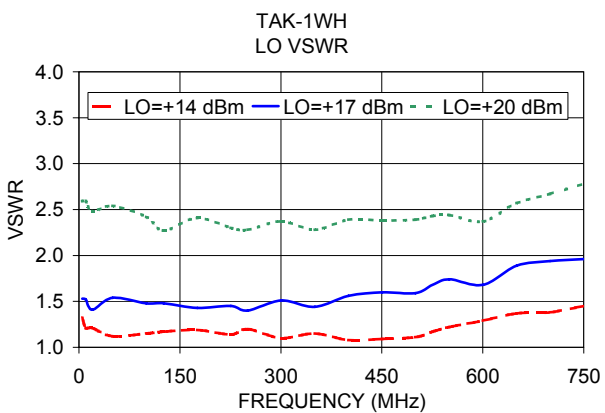
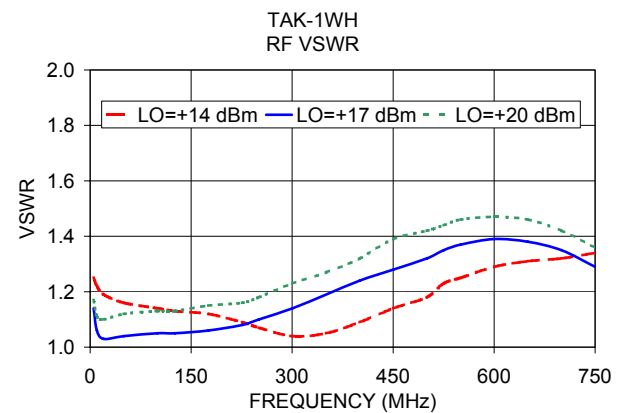
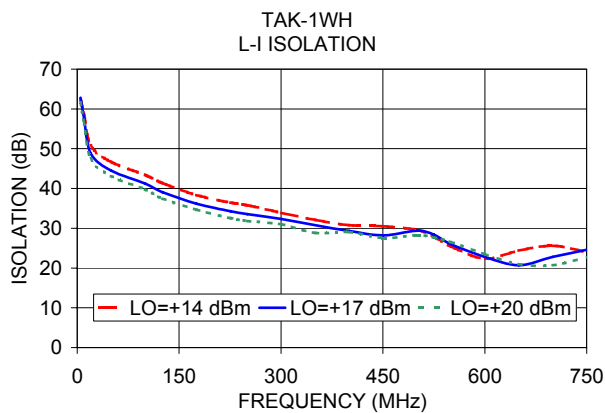
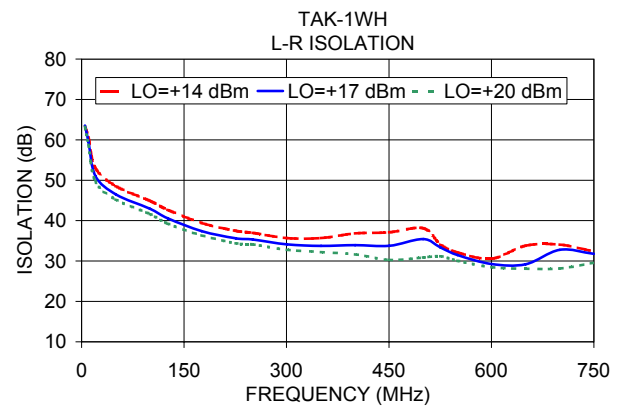
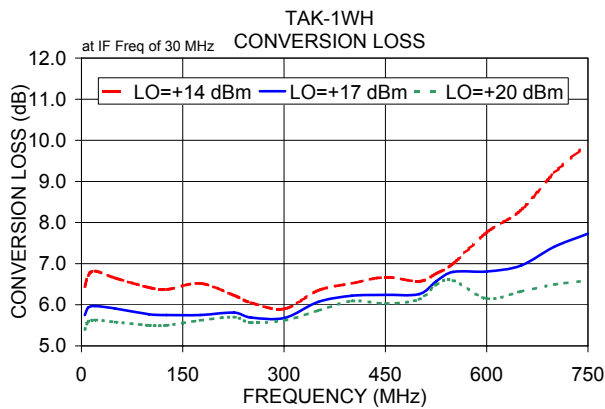
### Electrical Schematic



### 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-Circuit's 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-Circuit's 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)

