

Plug-In

Frequency Mixer

Level 10 (LO Power +10 dBm) 0.15 to 400 MHz

TUF-3LH+



CASE STYLE: B02

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

Features

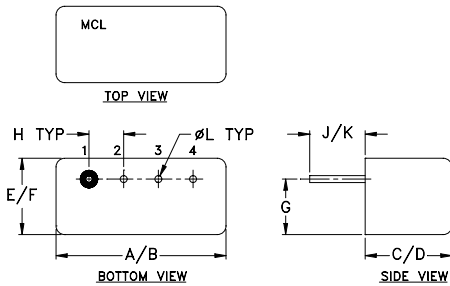
- low conversion loss, 4.8 dB typ.
- high isolation, 51 dB typ. L-R, 45 dB typ. L-I
- rugged welded construction

Applications

- HF/VHF
- defense & federal 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
.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

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}	σ			Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
0.15-400	DC-400	4.8	0.37	7.0	8.0	67	50	51	30	40	25	67	40	45	25	34	20

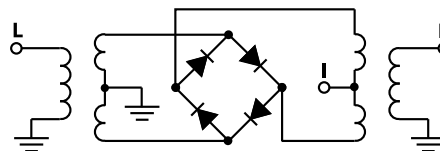
1 dB COMP.: +5 dBm typ.

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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
0.15	30.15	4.98	69.38	85.98	1.21	2.67
0.30	30.30	4.90	69.38	85.28	1.15	2.64
0.50	30.50	4.83	69.26	86.26	1.10	2.57
1.00	31.00	4.74	69.26	83.06	1.06	2.52
1.50	31.50	4.69	69.08	80.98	1.03	2.36
2.00	32.00	4.66	68.95	78.75	1.02	2.40
5.00	35.00	4.62	68.20	71.20	1.01	2.33
10.00	40.00	4.59	66.47	65.07	1.02	2.31
20.00	50.00	4.68	63.23	59.53	1.02	2.25
50.00	80.00	4.66	56.07	50.61	1.02	2.25
57.27	87.27	4.67	54.97	49.44	1.01	2.29
100.00	70.00	4.67	50.23	45.42	1.01	2.25
114.39	84.39	4.68	48.98	45.06	1.01	2.28
171.51	14.15	4.80	45.17	42.49	1.01	2.33
200.00	170.00	4.81	42.29	40.27	1.01	2.44
228.64	198.64	4.90	41.00	37.35	1.04	2.39
285.76	255.76	5.11	48.00	34.00	1.09	2.41
342.88	312.88	5.17	39.79	33.43	1.20	2.58
385.72	356.72	5.29	34.24	31.62	1.23	2.76
400.00	370.00	5.48	34.34	30.09	1.27	2.78

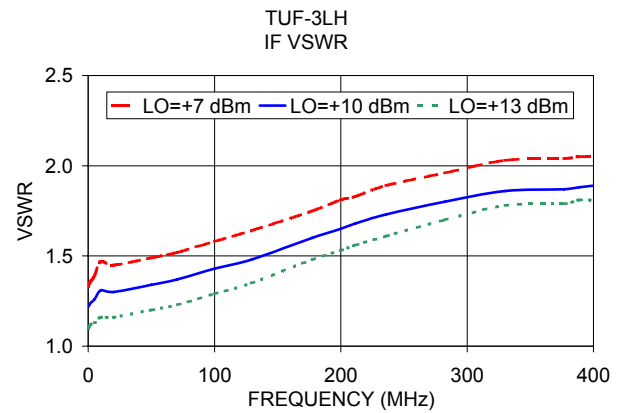
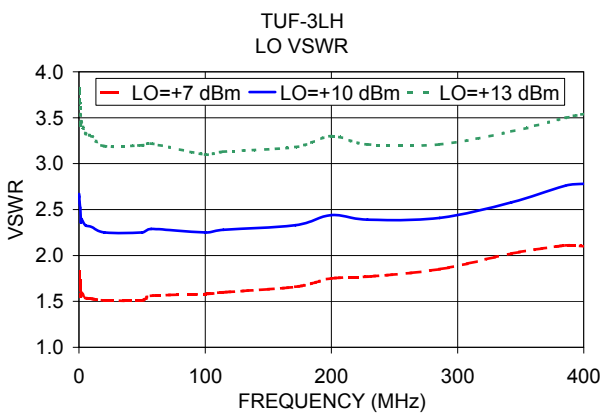
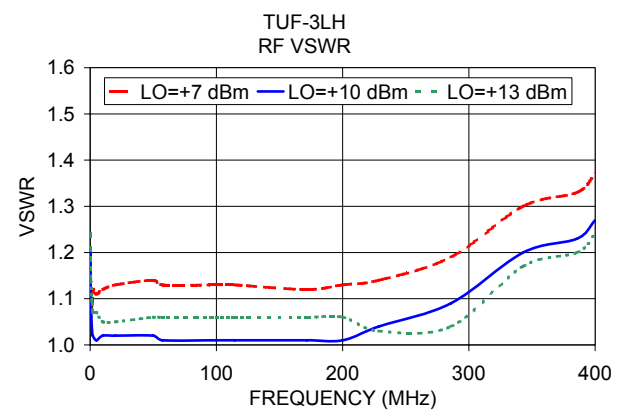
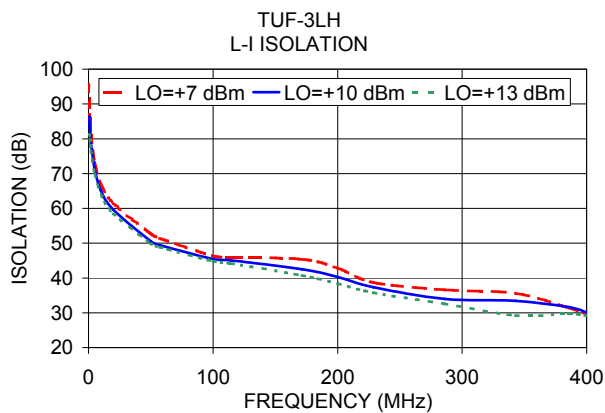
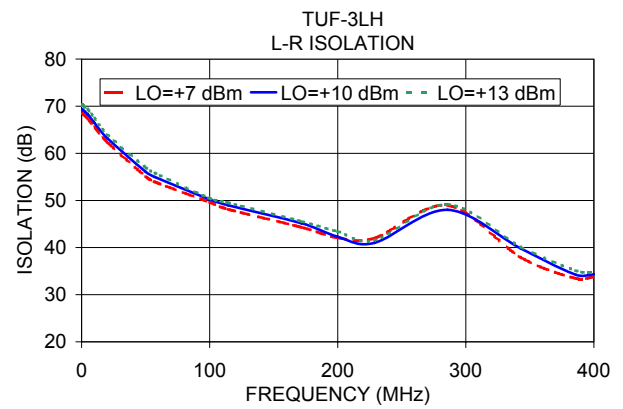
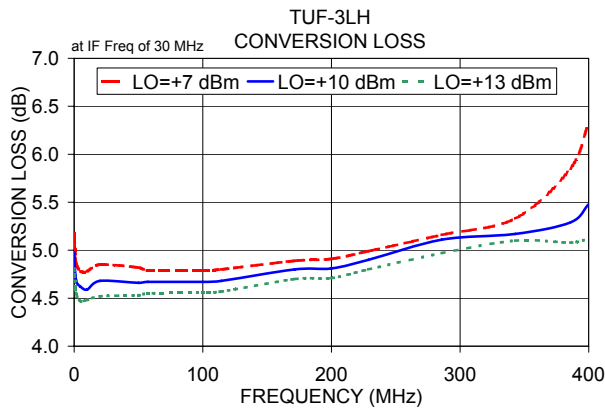
Electrical Schematic



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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