

Plug-In

Frequency Mixer

Level 10 (LO Power +10 dBm) 2 to 600 MHz

TUF-1LH+



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

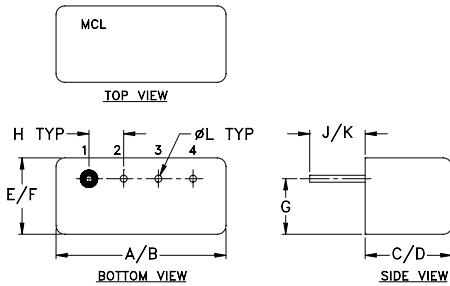
Features

- low conversion loss, 6.0 dB typ.
- high L-R & L-I isolation, 50 dB typ.
- rugged welded construction

Applications

- VHF/UHF
- defense & federal communications

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)			IP3 @ CENTER BAND (dBm)										
		L	M	U	L	M	U											
2-600	DC-600	6.0	0.17	7.0	8.0	70	50	50	30	42	25	65	45	50	30	41	22	17

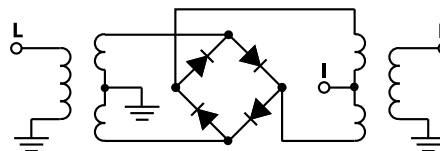
1 dB COMP.: +5 dBm typ.

L = low range [f_1 to $10 f_1$] M = mid range [$10 f_1$ to $f_2/2$] U = upper range [$f_2/2$ to f_2]
m = mid band [$2f_1$ to $f_2/2$]

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
2.00	32.00	6.28	67.01	84.01	1.47
4.00	34.00	5.95	65.93	80.03	1.27
5.00	35.00	5.89	65.47	78.57	1.23
10.00	40.00	5.80	63.93	73.13	1.14
20.00	50.00	5.82	61.72	68.22	1.12
50.00	80.00	5.82	56.12	60.69	1.11
59.87	89.87	5.78	54.83	59.50	1.11
100.00	70.00	5.77	51.13	55.91	1.12
117.74	87.74	5.79	50.12	55.10	1.15
175.61	145.61	5.69	47.32	52.30	1.18
200.00	170.00	5.73	46.57	51.26	1.21
233.48	203.48	5.70	45.24	49.36	1.25
291.36	261.36	5.69	43.94	46.68	1.27
300.00	270.00	5.68	43.65	46.00	1.31
349.23	319.23	5.71	42.63	43.46	1.35
407.10	337.10	5.70	41.85	41.86	1.40
464.97	434.97	5.72	40.61	39.52	1.45
522.84	492.84	5.77	39.23	37.60	1.49
580.71	550.71	5.84	38.82	36.92	1.51
600.00	570.00	5.87	38.87	36.44	1.53

Electrical Schematic



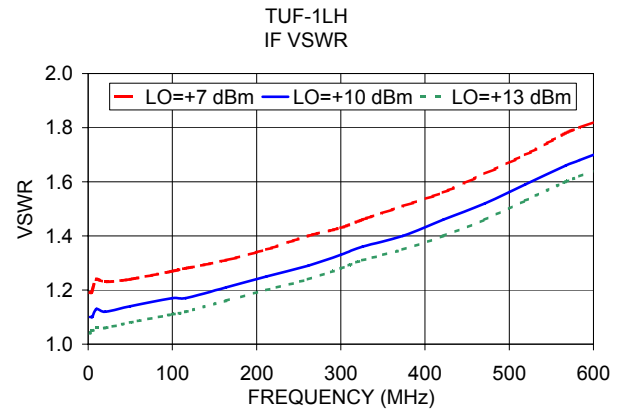
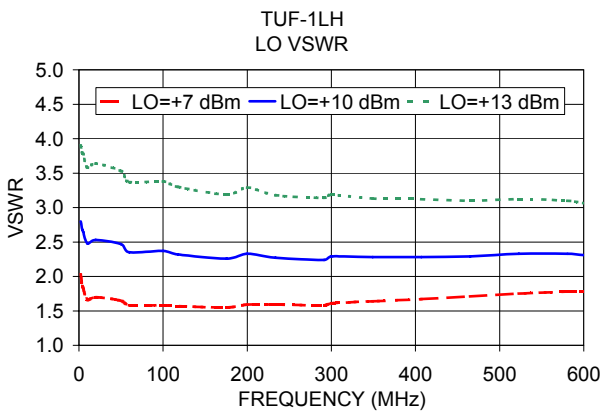
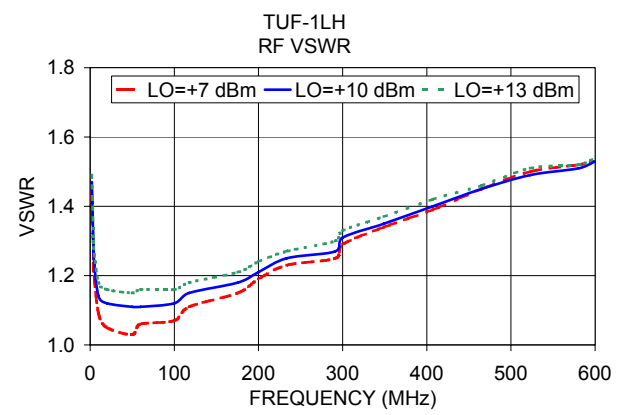
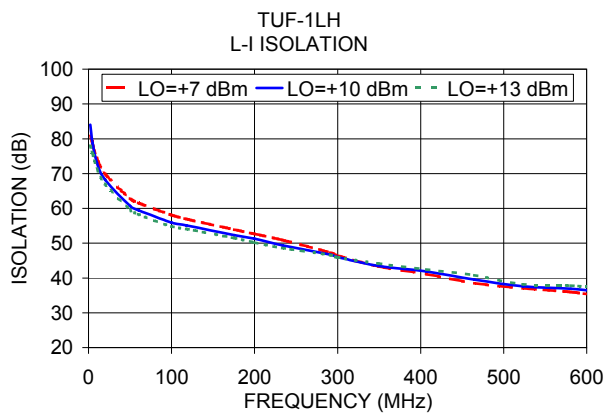
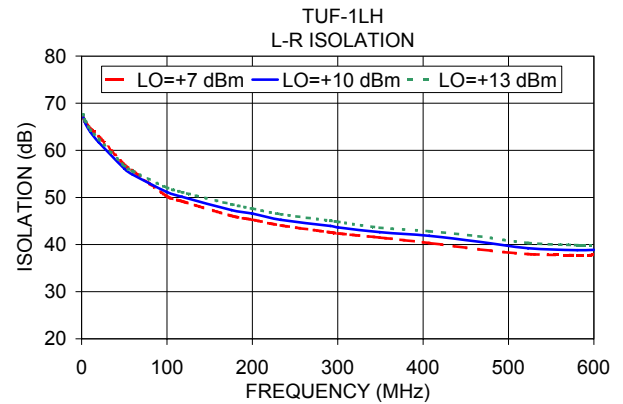
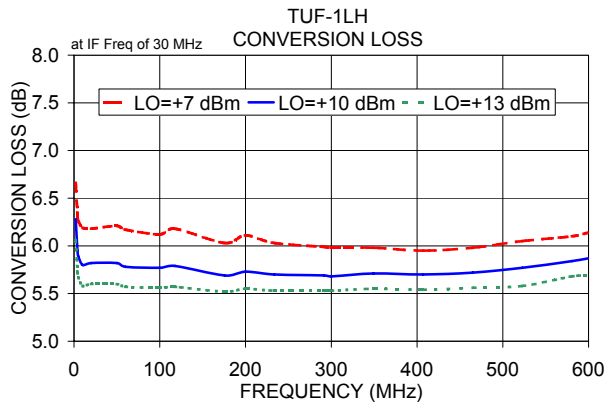
Notes

- 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



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. A
M151107
TUF-1LH+
DJ/TD/CP/AM
151008
Page 1 of 2



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

