

Plug-In

Frequency Mixer

Level 7 (LO Power + 7 dBm) 0.15 to 400 MHz

TUF-3+



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

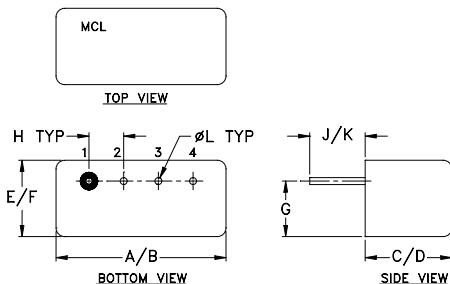
- low conversion loss, 4.7 dB typ.
- high isolation, 46 dB typ. L-R, 47 dB typ. L-I
- rugged welded construction

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)			IP3 @ CENTER BAND (dBm)						
		L	M	U	L	M	U							
0.15-400	DC-400	60	50	46	30	35	25	60	40	47	25	35	20	11

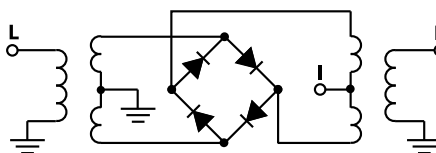
1 dB COMP.: +1 dBm typ.
For phase detection, DC positive polarity with in-phase RF & LO.

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)	VSWR RF Port (:1)	Frequency (MHz)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO Port (:1)
0.15	30.15	5.37	1.57	10.00	68.68	61.84
0.23	30.23	5.27	1.41	20.00	65.36	56.87
0.30	30.30	5.21	1.33	30.00	63.22	54.20
0.50	30.50	5.16	1.25	40.00	61.75	52.09
1.00	31.00	5.08	1.21	76.00	57.56	47.59
2.80	32.80	4.91	1.21	94.00	56.48	45.97
6.40	36.40	4.91	1.21	112.00	54.90	44.70
10.00	40.00	4.73	1.21	149.00	52.63	42.36
28.00	58.00	4.71	1.21	168.00	54.13	42.02
64.00	94.00	4.75	1.17	206.00	49.62	38.81
100.00	130.00	4.83	1.14	225.00	48.10	38.56
138.00	168.00	4.85	1.13	244.00	48.03	37.82
157.00	187.00	4.88	1.10	282.00	53.65	37.79
195.00	225.00	4.92	1.08	301.00	55.10	38.07
233.00	263.00	4.97	1.10	320.00	54.03	37.59
252.00	282.00	5.10	1.12	340.00	52.86	36.62
271.00	301.00	5.17	1.14	360.00	51.53	35.44
290.00	320.00	5.15	1.17	390.00	47.44	33.11
370.00	340.00	5.38	1.10	410.00	45.39	32.24
400.00	370.00	5.41	1.05	430.00	44.42	32.17

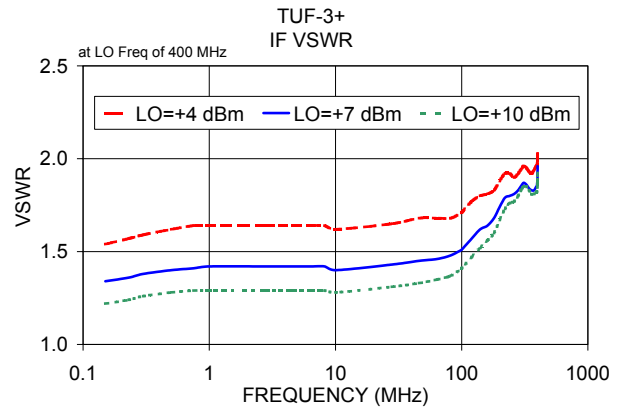
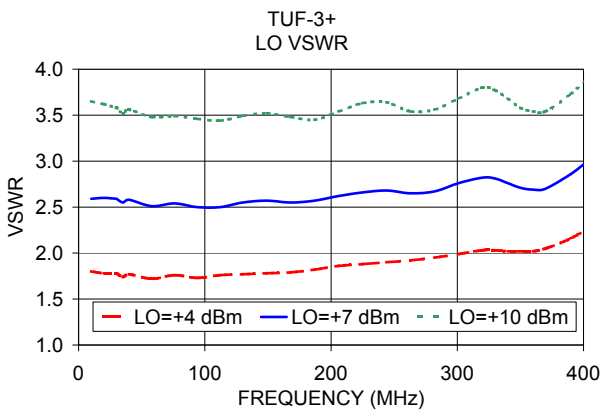
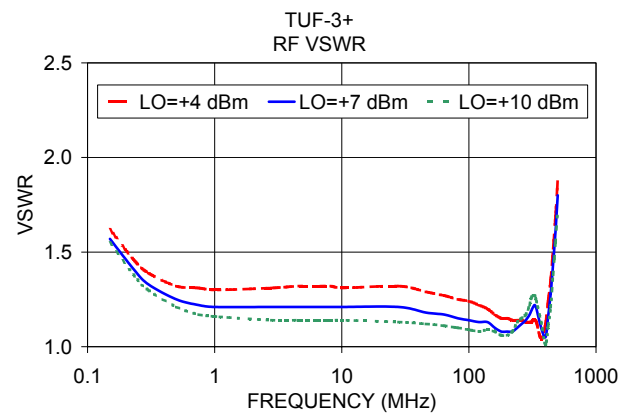
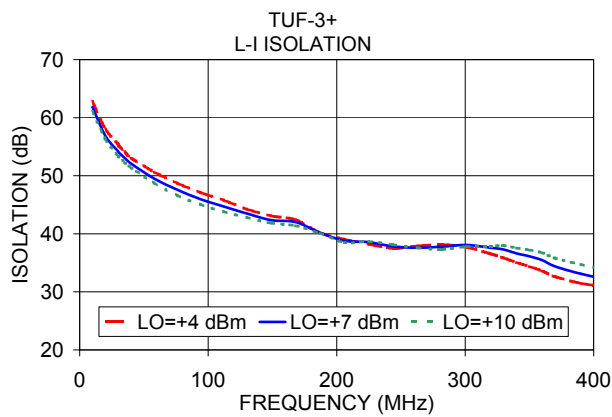
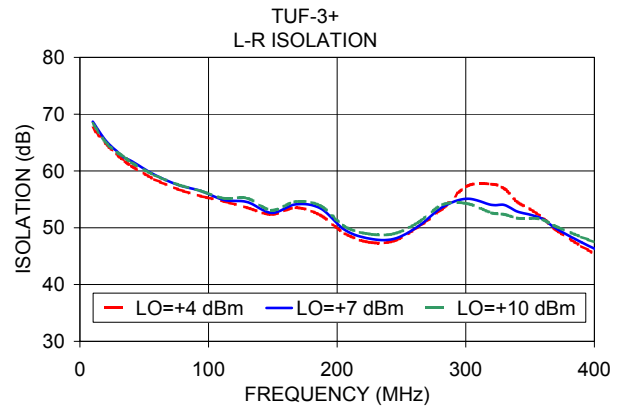
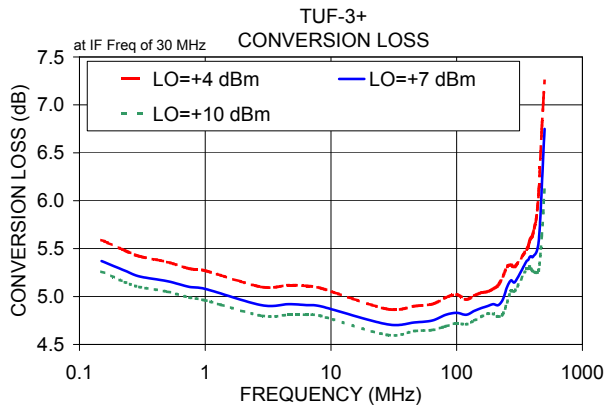
Electrical Schematic



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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