

Frequency Mixer

Level 13 (LO Power +13 dBm) 20 to 1500 MHz

TUF-5MH+



CASE STYLE: B02

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	4
RF	1
IF	2
GROUND	3
CASE GROUND	3

Features

- low conversion loss, 7.0 dB typ.
- wideband, 20 to 1500 MHz
- good L-R isolation, 41 dB typ.
- rugged welded construction

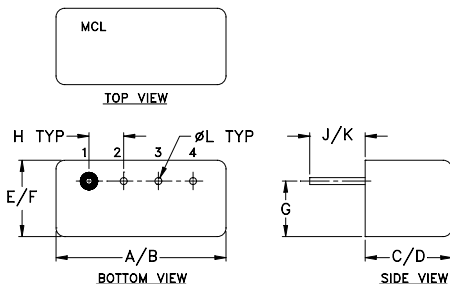
Applications

- VHF/UHF
- satellite distribution
- cellular
- GPS

+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 m	Total Range Max.		L	M	U	L	M	U							
f_L - f_U		\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.							
20-1500	DC-1000	7.0	0.25	8.5	9.0	50	40	41	30	35	25	38	25	28	18	20	8

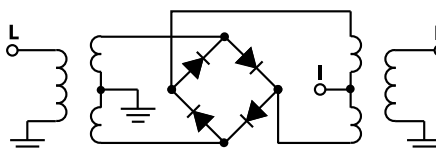
1 dB COMP.: +9 dBm typ.

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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
20.00	50.00	5.87	65.81	50.21	1.57	2.60
50.00	80.00	5.57	58.31	42.94	1.38	2.52
100.00	70.00	5.41	52.44	37.15	1.37	2.40
158.75	128.75	5.37	48.96	34.29	1.48	2.28
200.00	170.00	5.43	47.29	32.96	1.56	2.37
297.50	267.50	5.51	45.30	30.09	1.77	2.30
436.25	406.25	5.79	45.57	27.35	2.15	2.34
500.00	470.00	5.90	45.56	26.32	2.23	2.33
575.00	545.00	6.21	44.68	25.44	2.70	2.39
713.75	683.75	6.95	43.61	24.34	3.13	2.40
750.00	720.00	7.16	43.15	24.17	3.17	2.43
760.00	730.00	7.15	43.01	24.16	3.31	2.44
852.50	822.50	7.16	41.36	23.95	3.52	2.50
991.25	961.25	7.16	39.32	22.75	3.65	2.58
1000.00	970.00	7.32	39.30	22.64	3.71	2.59
1130.00	1100.00	7.38	36.80	20.71	3.70	2.62
1222.50	1192.50	7.32	38.30	18.60	3.63	2.70
1361.25	1331.25	7.13	37.67	15.58	3.42	2.64
1453.75	1423.75	7.10	37.62	13.78	3.33	2.62
1500.00	1470.00	7.00	37.26	12.95	3.23	2.57

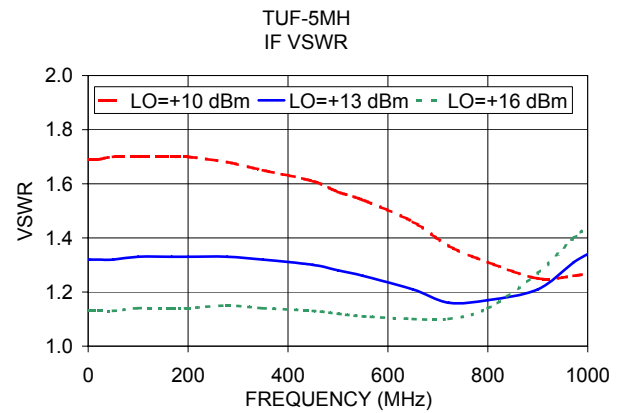
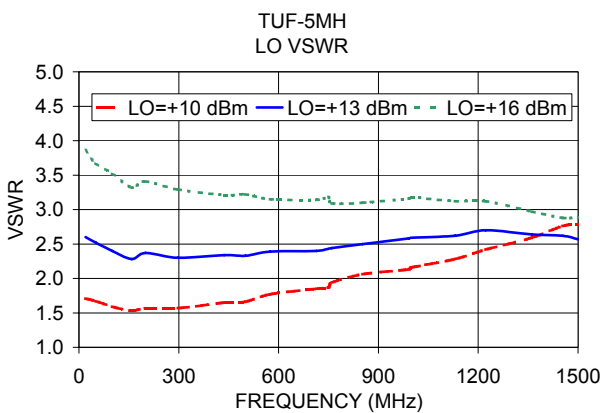
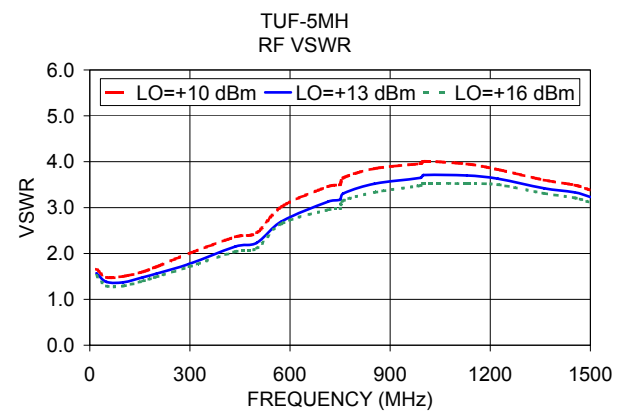
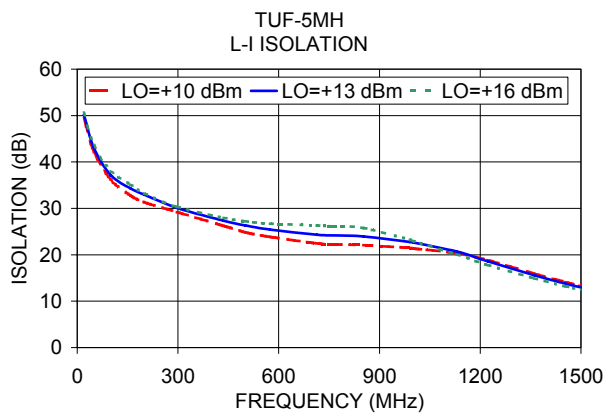
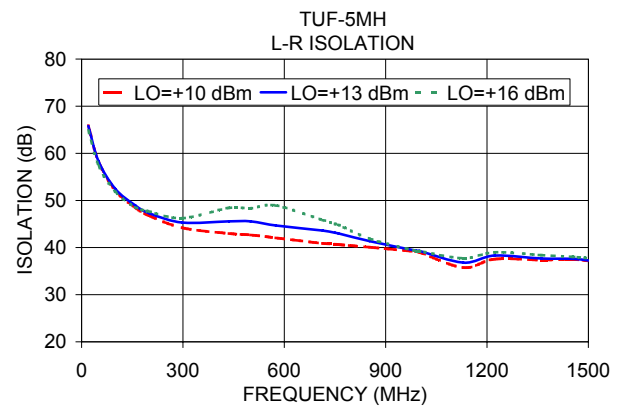
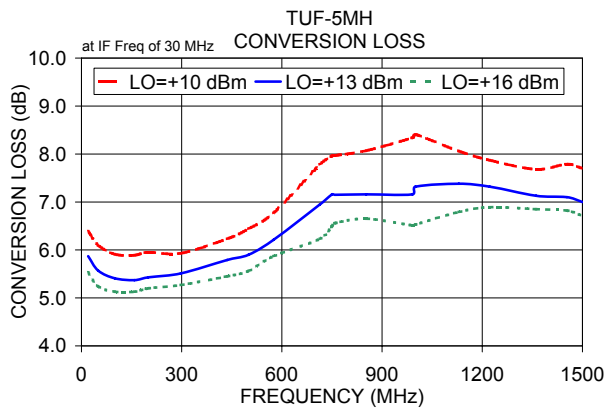
Electrical Schematic



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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