

Surface Mount High Reliability Mixer

Level 7 (LO Power +7 dBm) 0.25 to 400 MHz

TUF-R3SM+



CASE STYLE: NNN150
PRICE: \$10.50 ea. QTY. (10)

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

- hermetically sealed ceramic quad
- low conversion loss, 5.0 dB typ.
- good IP3, 11 dBm typ.
- excellent L-R isolation, 60 dB typ. and L-I, 45 dB typ.
- rugged welded construction
- shielded metal case

Applications

- HF/VHF
- defense & federal communications

+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)			IP3 at center band (dBm)
		Mid-Band m	Total Range Max.			L	M	U	L	M	U	
LO/RF f_L - f_U	IF	$\bar{X}$	σ	Max.	Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.
0.25-400	DC-400	5.0	0.06	7.0	8.0	70 55	60 40	55 35	62 45	45 30	38 25	11

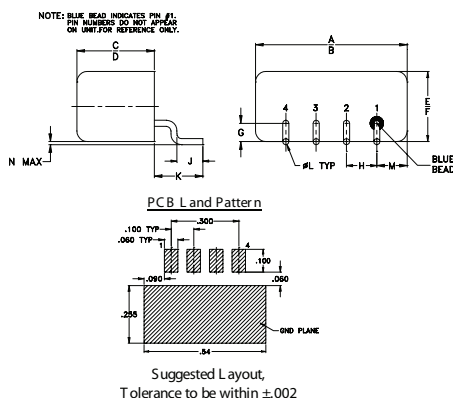
1 dB COMP.: +1 dBm typ.

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 [$2 f_L$ 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
0.19	30.19	5.06	69.28	55.44	1.42	2.75
3.00	33.00	4.60	68.03	54.92	1.26	2.59
5.00	35.00	4.58	67.90	54.80	1.27	2.54
7.00	37.00	4.58	67.62	54.60	1.27	2.57
9.00	39.00	4.59	66.93	54.30	1.27	2.62
70.00	100.00	4.69	61.43	49.77	1.22	2.60
170.00	200.00	4.79	56.89	43.87	1.07	2.76
180.00	210.00	4.80	52.94	42.55	1.09	2.58
220.00	250.00	4.86	52.88	41.07	1.05	2.70
230.00	260.00	4.89	55.41	41.87	1.03	2.73
250.00	280.00	4.99	57.89	41.02	1.03	2.63
270.00	300.00	5.10	58.15	42.79	1.05	2.88
290.00	320.00	5.15	58.15	42.34	1.11	2.64
310.00	340.00	5.18	53.30	40.28	1.17	2.83
330.00	360.00	5.21	54.80	40.01	1.20	2.58
350.00	380.00	5.29	55.87	38.40	1.19	2.97
370.00	400.00	5.37	53.78	36.55	1.15	2.70
380.00	410.00	5.42	56.98	36.73	1.13	2.76
390.00	420.00	5.48	55.72	36.06	1.11	3.03
400.00	430.00	5.56	52.45	35.70	1.09	3.16

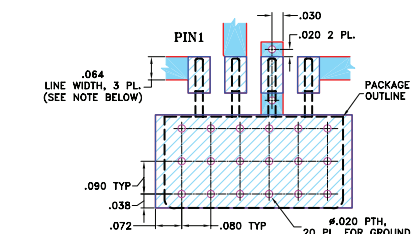
Outline Drawing



Outline Dimensions (inch)

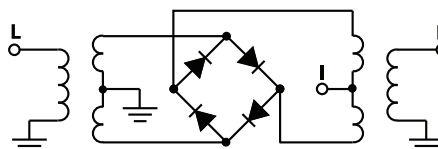
A	B	C	D	E	F	G
.50	.48	.255	.240	.23	.21	.06
12.70	12.19	6.48	6.10	5.84	5.33	1.52
H	J	K	L	M	N	wt
.100	.09	.16	.020	.09	.005	grams
2.54	2.29	4.06	0.51	2.29	0.13	1.9

Demo Board MCL P/N: TB-201 Suggested PCB Layout (PL-081)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Schematic



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IF/RF MICROWAVE COMPONENTS

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