

Surface Mount

High Reliability Mixer

Level 7 (LO Power +7 dBm) 50 to 1000 MHz

TUF-R2SM+



CASE STYLE: NNN150
PRICE: \$8.85 ea. QTY (1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify 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

- hermetically sealed ceramic quad
- low conversion loss, 6.2 dB typ.
- excellent isolation L-R, 50 dB typ.; L-I, 45 dB typ.
- wideband, 50 to 1000 MHz
- rugged welded construction
- shielded metal case

Applications

- VHF/UHF
- cellular
- ISM/GSM

Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)
		L	M	U	L	M	U	
LO/RF f_L - f_U	Mid-Band m $\bar{X}$ σ Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.
50-1000 DC-1000	6.2 0.05 7.5 9.0	60 45	50 38	45 33	52 40	45 25	35 20	16

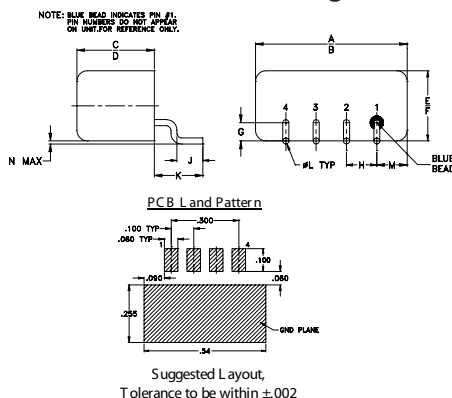
1 dB COMP.: +1 dBm typ.

L = 50-100 MHz M = 100-500 MHz U = upper range [$f_L/2$ 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
50.10	80.10	6.13	61.06	53.90	1.13	2.65
130.10	160.10	6.04	55.37	49.59	1.14	2.72
210.10	240.10	6.00	52.64	47.63	1.07	2.72
250.10	280.10	6.03	51.85	46.92	1.04	2.61
330.10	360.10	6.02	49.94	44.93	1.11	2.62
450.10	480.10	6.09	47.28	42.14	1.12	2.57
530.10	560.10	6.16	45.92	39.91	1.17	2.56
570.10	600.10	6.23	45.54	39.18	1.15	2.58
610.10	640.10	6.28	45.27	38.57	1.17	2.57
650.10	680.10	6.36	44.97	37.99	1.22	2.54
690.10	720.10	6.43	44.43	37.20	1.21	2.57
730.10	760.10	6.57	44.04	36.49	1.22	2.54
770.10	800.10	6.69	43.45	35.73	1.23	2.57
810.10	840.10	6.79	43.09	35.40	1.22	2.55
850.10	880.10	6.88	42.80	35.03	1.23	2.53
890.10	920.10	6.97	42.61	34.75	1.29	2.53
930.10	960.10	7.03	42.50	34.44	1.29	2.50
970.10	1000.10	7.04	42.34	33.98	1.31	2.49
990.10	1020.10	7.04	42.36	33.78	1.34	2.50
1030.10	1060.10	7.10	42.36	33.58	1.33	2.51

Outline Drawing

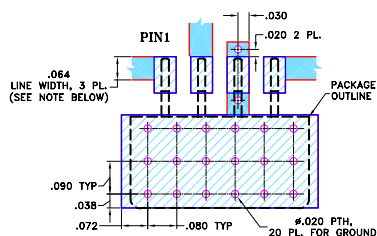


Outline Dimensions (inch mm)

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

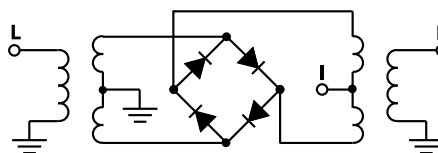
H	J	K	L	M	N	wt
.100	.09	.16	.020	.09	.005	grams
2.54	2.29	4.06	0.51	2.29	0.13	1.9

Demo Board MCL PIN: 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



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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