

Frequency Mixer

Level 17 (LO Power +17 dBm) 50 to 1000 MHz

TUF-2HSM+



CASE STYLE: NNN150
PRICE: \$13.45 ea. QTY (1-9)

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

Pin Connections

LO	4
RF	1
IF	2
GROUND	3
CASE GROUND	3

Features

- low conversion loss, 6.20 dB typ.
- excellent isolation, 47 dB typ. L-R, 44 dB typ. L-I
- good IP3, 21 dBm typ.
- rugged welded construction

Applications

- VHF/UHF
- cellular
- ISM/GSM

+ 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.

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 @ CENTER BAND (dBm)
LO/RF	IF	Mid-Band		Total Range	Max.	L		M		U		L		M		U		Typ.
		\bar{X}	σ			Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
50-1000	DC-1000	6.20	0.22	7.5	9.0	58	40	47	30	42	25	58	35	44	25	28	18	21

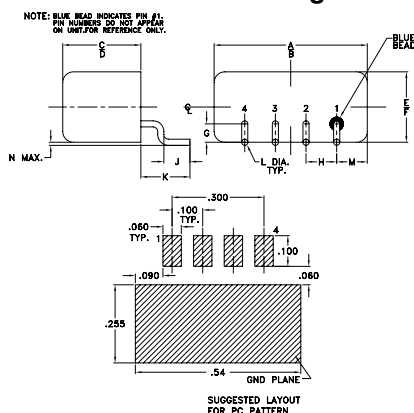
1 dB COMP.: +14 dBm typ.

L = 50-100 MHz M = 100-500 MHz 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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
5.00	35.00	5.75	73.03	64.57	1.24	1.51
35.15	65.15	5.75	53.95	50.91	1.10	1.53
65.30	95.30	5.78	47.75	44.94	1.10	1.52
125.61	95.61	5.83	45.94	42.85	1.09	1.44
185.91	155.91	5.88	41.73	38.74	1.09	1.43
216.06	186.06	5.87	40.07	37.26	1.10	1.39
276.37	246.37	5.70	37.49	34.59	1.11	1.38
336.67	306.67	5.62	35.70	32.97	1.11	1.40
396.98	366.98	5.78	35.50	32.29	1.12	1.37
457.28	427.28	6.15	33.92	30.55	1.13	1.36
517.58	487.58	5.88	34.70	29.07	1.15	1.37
547.74	517.74	5.91	35.38	29.45	1.15	1.39
608.04	578.04	6.36	34.75	28.29	1.16	1.38
668.34	638.34	6.50	34.53	27.06	1.17	1.38
728.65	698.65	6.30	33.69	25.41	1.20	1.36
788.95	758.95	6.43	32.39	25.21	1.22	1.45
849.26	819.26	7.56	32.23	24.28	1.26	1.49
909.56	879.56	8.59	32.46	23.91	1.34	1.52
969.86	939.86	8.55	32.66	24.30	1.46	1.54
1000.00	970.00	8.57	32.20	24.05	1.62	1.53

Outline Drawing

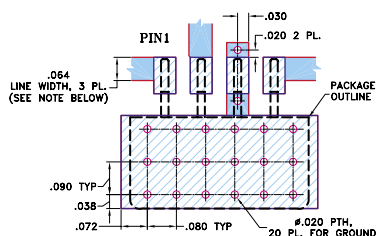


Outline Dimensions (inch mm)

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

