Surface Mount **Frequency Mixer**

Level 7 (LO Power +7 dBm) 20 to 1500 MHz

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



Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch)

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

Demo Board MCL PIN: TB-201 Suggested PCB Layout (PL-081)



NOTES: 1.TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 02. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED. 2.BORTION SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER) DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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Features

- low conversion loss, 5.7 dB typ.
- high L-R isolation, 42 dB typ.
- wideband, 20 to 1500 MHz
- rugged welded construction

Applications

- satellite distribution
- cellular
- ISM/GSM





Generic photo used for illustration purposes only CASE STYLE: NNN150

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

FREQ (M	UENCY Hz)	CO	NVER (SION dB)	LOSS	LO-RF ISOLATION (dB)				LO-IF ISOLATION (dB)						IP3 @ CENTER BAND (dBm)		
LO/RF f _L -f _U	IF	N X	/lid-Bar m σ	nd Max.	Total Range Max.	l Typ.	L Min.	N Typ.	/I Min.	l Typ.	J Min.	l Typ.	- Min.	N Typ.	Л Min.	l Typ.	J Min.	Тур.
20-1500	DC-1500	5.7	0.04	9.0	9.0	54	40	42	30	39	25	40	25	32	18	23	8	12
1 dB COMP: +1 dBm typ. L = low range [f_L to 10 f_1] M = mid range [10 f_L to $f_0/2$] U = upper mid band [0f_L to f_0/2].								range $[f_{\rm U}/2 \text{ to } f_{\rm U}]$										

m= mid band [2f_L to $f_U/2$]

Typical Performance Data

		718 8 8					
Fre (quency 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	
20.00	50.00	5.76	69.06	50.01	1.56	2.37	
40.00	70.00	5.54	63.75	45.70	1.44	2.31	
50.00	80.00	5.44	61.73	43.88	1.56	2.17	
100.00	70.00	5.38	56.05	38.99	1.62	2.16	
158.75	128.75	5.40	52.30	36.23	1.89	2.18	
200.00	170.00	5.41	49.90	34.38	2.12	2.20	
297.50	267.50	5.58	46.54	31.36	2.25	2.23	
436.25	406.25	5.81	46.39	28.70	2.65	2.27	
500.00	470.00	5.94	46.35	27.70	3.02	2.33	
575.00	545.00	6.28	45.43	26.65	3.26	2.35	
713.75	683.75	6.65	43.76	25.47	3.36	2.38	
750.00	720.00	6.73	43.43	25.18	3.43	2.42	
852.50	822.50	6.83	42.21	24.77	3.60	2.54	
991.25	961.25	7.20	40.31	22.85	3.65	2.71	
1000.00	970.00	7.15	40.23	22.65	3.65	2.84	
1130.00	1100.00	7.28	38.87	19.85	3.62	2.90	
1268.75	1238.00	7.27	38.46	17.22	3.58	3.10	
1407.50	1377.50	7.29	37.61	14.48	3.50	3.39	
1453.75	1423.75	7.22	37.14	13.58	3.42	3.62	
1500.00	1470.00	7.38	36.87	12.98	3.39	3.76	

Electrical Schematic



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201120

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Performance Charts

TUF-5SM+



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