

# Frequency Mixer

Level 7 (LO Power +7 dBm) 2500 to 6000 MHz



CASE STYLE: BJ398

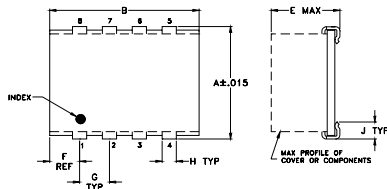
### Maximum Ratings

Operating Temperature	-40°C to 85°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.	

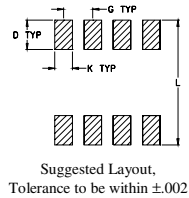
### Pin Connections

LO	1
RF	5
IF	7
GROUND	2,3,4,6,8

### Outline Drawing



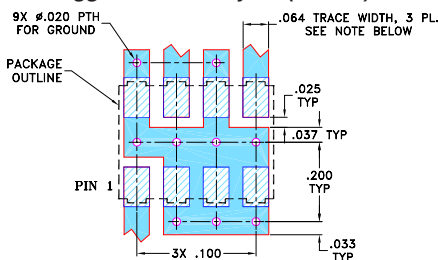
### PCB Land Pattern



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.305	.390	--	.100	.105	.045	.100
7.75	9.91	--	2.54	2.67	1.14	2.54
H	J	K	L	wt		
.047	.065	.065	.325	grams		
1.19	1.65	1.65	8.26	0.20		

### Demo Board MCL P/N: TB-11 Suggested PCB Layout (PL-056)



### NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM 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

### 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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### Features

- wide bandwidth, 2500 to 6000 MHz.
- low conversion loss, 6.2 dB typ.
- good L-R isolation, 28 dB typ.
- J-leads for strain relief

### Applications

- line of sight links
- fixed satellite

### Electrical Specifications

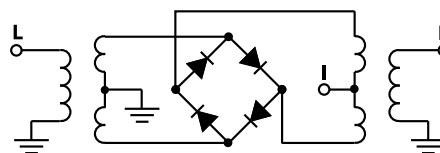
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	Mid-Band	Total Range		Typ.	Min.	Typ.	Min.	Typ.
$f_L-f_U$		$\bar{X}$	$\sigma$	Max.					
2500-6000	DC-1500	6.2	.20	9.7	28	17	14	8	11

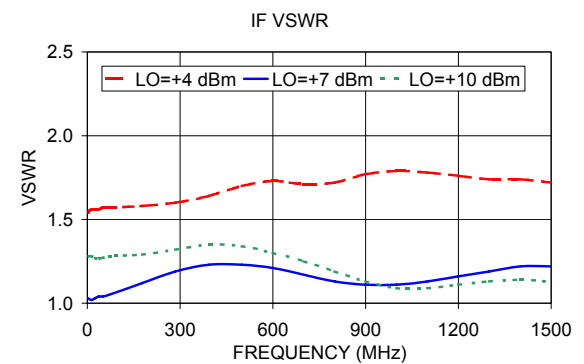
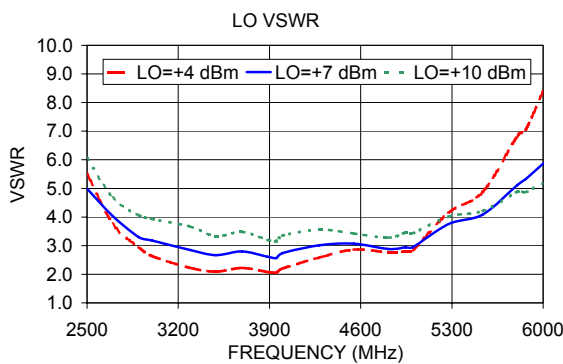
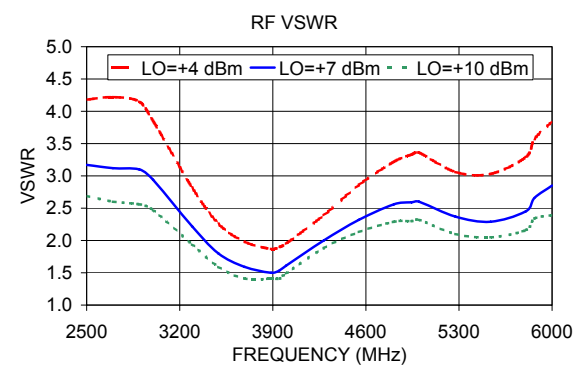
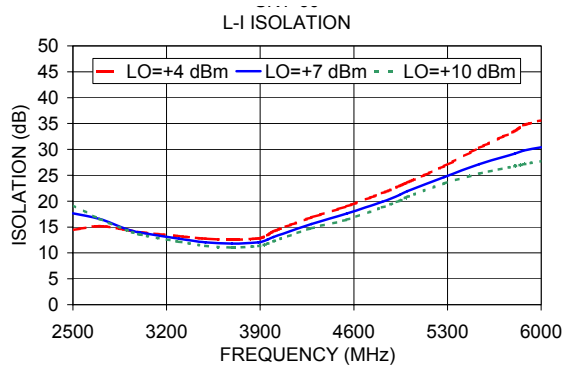
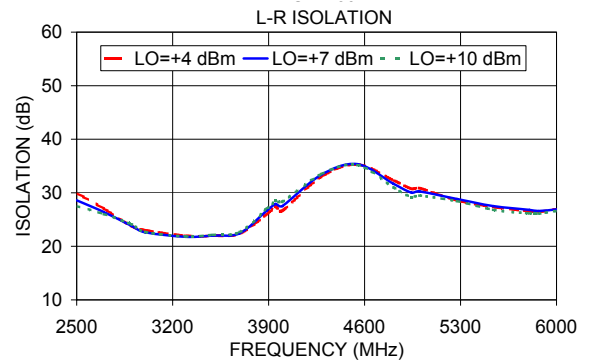
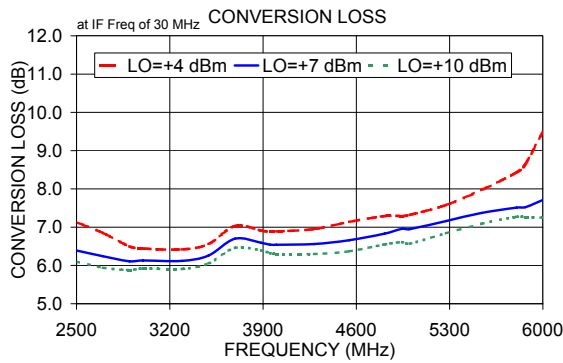
1 dB COMP.: +1 dBm typ.

### 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
2500.00	2530.00	6.39	28.60	17.65	3.17	4.99
2698.11	2728.11	6.24	26.41	16.56	3.12	4.03
2896.23	2926.23	6.11	23.87	14.61	3.10	3.30
3000.00	3030.00	6.13	22.62	13.96	2.94	3.18
3292.45	3322.45	6.12	21.77	12.75	2.22	2.85
3490.57	3520.57	6.26	22.01	12.06	1.80	2.67
3688.68	3718.68	6.70	22.43	11.80	1.59	2.80
3886.79	3916.79	6.59	26.67	12.03	1.50	2.61
3952.83	3982.83	6.54	27.93	12.54	1.54	2.57
4000.00	4030.00	6.54	27.51	13.08	1.61	2.74
4283.02	4253.02	6.56	33.35	15.58	2.00	3.01
4547.17	4517.17	6.66	35.36	17.59	2.32	3.07
4811.32	4781.32	6.83	31.67	19.88	2.56	2.88
4943.40	4913.40	6.96	30.01	21.24	2.59	2.94
5000.00	4970.00	6.95	30.27	21.94	2.60	2.95
5273.58	5243.58	7.16	28.84	24.64	2.37	3.75
5537.74	5507.74	7.37	27.52	27.13	2.29	4.09
5801.89	5771.89	7.51	26.80	29.17	2.45	5.12
5867.92	5837.92	7.52	26.60	29.78	2.66	5.33
6000.00	5970.00	7.71	26.91	30.39	2.85	5.87

### Electrical Schematic





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