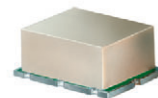


Surface Mount Frequency Mixer

SYM-2500+ SYM-2500

Level 7 (LO Power +7 dBm) 1 to 2500 MHz



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	2
RF	1
IF	3
GROUND	4,5,6

Features

- wideband, 1 to 2500 MHz.
- low conversion loss, 6.5 dB typ.
- high L-R isolation, 50 dB typ.

Applications

- ISM/GPS
- PCS
- cellular
- satellite distribution

CASE STYLE: TTT167
PRICE: \$11.95 ea. QTY (1-9)

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

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

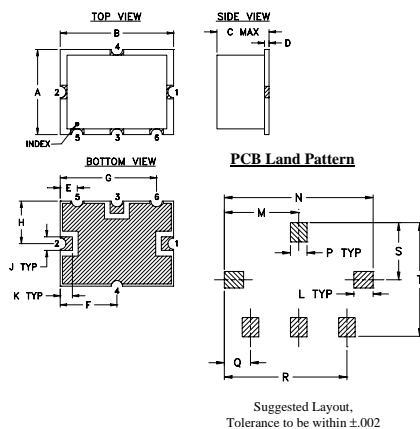
Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)										
		L	M	U	L	M	U											
1-2500	DC-500	6.5	.10	8.5	9.8	70	50	50	25	36	20	60	45	30	10	16	8	12

1 dB COMP.: +1 dBm typ.

L = low range [f_1 to $10 f_1$]
M = mid band [$2 f_1$ to $f_1/2$]
U = upper range [$f_1/2$ to f_1]

Outline Drawing

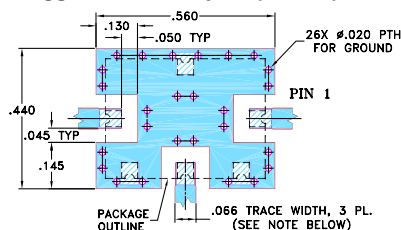


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.38	.50	.23	.020	.075	.250	.425	.187	.050	.050
9.65	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	1.27
L	M	N	P	Q	R	S	T	wt.	
.070	.270	.540	.060	.095	.445	.208	.415	grams	
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8	

Demo Board MCL P/N: TB-12 Suggested PCB Layout (PL-079)

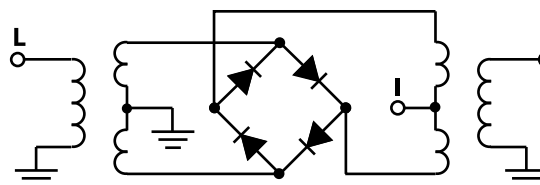


- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. GROUND PAD SHALL BE FREE OF SOLDER MASK IF REQUIRED FOR SOLDERING.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER), SEE NOTE 2.
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)		Isolation L-R (dB)		Isolation L-I (dB)		VSWR RF Port (:1)		VSWR LO Port (:1)	
	LO	+7dBm	LO	+7dBm	LO	+7dBm	LO	+7dBm	LO	+7dBm
1.01	31.01	5.40	68.55	78.07	1.24	2.88				
2.01	32.01	5.24	68.93	76.05	1.18	2.74				
5.84	35.84	5.13	70.25	70.86	1.17	2.63				
9.42	39.42	5.12	70.04	68.23	1.17	2.50				
20.90	50.90	5.12	68.86	62.17	1.17	2.52				
54.42	84.42	5.17	67.37	57.12	1.20	2.44				
102.99	72.99	5.17	63.40	53.83	1.22	2.41				
194.90	164.90	5.28	58.63	46.88	1.33	2.33				
507.42	477.42	5.59	56.42	36.76	1.69	1.97				
960.27	930.27	6.94	43.41	19.21	2.59	1.30				
1126.30	1096.30	7.08	37.71	17.79	3.14	1.12				
1250.00	1220.00	7.57	35.73	18.03	3.60	1.10				
1400.00	1370.00	7.99	35.56	18.61	3.63	1.27				
1549.41	1519.41	8.23	34.63	17.85	2.87	1.45				
1600.00	1570.00	8.20	34.82	17.62	2.69	1.52				
1800.00	1770.00	8.17	34.21	16.19	2.25	1.77				
2000.00	1970.00	7.97	34.66	16.53	1.93	1.96				
2200.00	2170.00	7.83	38.26	17.68	1.46	2.01				
2400.00	2370.00	7.93	40.77	17.10	1.10	1.86				
2500.00	2470.00	8.18	43.10	16.95	1.83	1.71				

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp.

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Performance Charts

