

Surface Mount Frequency Mixer

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

SYM-11+
SYM-11



CASE STYLE: TTT167
PRICE: \$9.95 ea. QTY (1-9)

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Pin Connections

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

Features

- wideband, 1 to 2500 MHz
- low conversion loss, 7.0 dB typ.
- good isolation, 40 dB typ. L-R, 35 dB typ. L-I

Applications

- cellular
- PCS
- satellite distribution
- ISM/GPS

+ 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

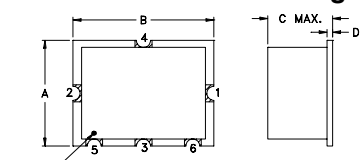
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF	IF	Mid-Band m			Total Range Max.	L		M		U		L		M		U		
		\bar{X}	σ	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1-2500	10-600	7.0	.30	9.0	10.5	63	40	40	24	34	20	61	40	35	20	28	15	10

1 dB COMP.: +1 dBm typ.

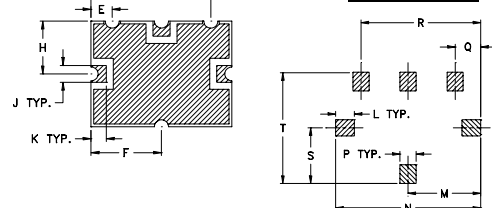
Typical Performance Data

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
1.00	31.00	6.40	68.00	60.00	1.68	2.55
5.00	35.00	6.30	67.00	60.00	1.94	2.49
10.00	40.00	6.10	66.89	59.19	1.96	2.49
20.00	50.00	5.90	66.40	58.44	1.94	2.46
50.00	80.00	5.73	63.88	53.42	1.92	2.37
100.00	130.00	5.68	62.97	52.21	1.96	2.40
194.12	224.12	5.91	53.44	41.55	2.01	2.32
482.35	512.35	6.54	48.24	36.56	2.61	2.35
500.00	530.00	6.50	46.35	34.52	2.72	2.46
914.71	944.71	7.93	42.55	30.52	3.06	2.58
1000.00	1030.00	7.97	38.96	27.74	3.11	2.55
1058.82	1088.82	7.96	37.68	27.44	3.16	2.37
1250.00	1280.00	8.08	37.80	26.59	3.26	2.52
1347.06	1377.06	8.20	37.25	25.51	3.26	2.35
1635.29	1665.29	8.62	36.02	23.96	3.16	2.61
2000.00	2030.00	8.57	37.44	39.22	3.11	2.55
2067.65	2097.65	8.47	38.87	50.34	3.06	2.46
2355.88	2385.88	8.58	39.98	32.54	2.65	2.40
2470.00	2500.00	8.79	36.58	29.89	2.04	2.12
2500.00	2470.00	8.92	35.35	28.76	1.99	2.08

Outline Drawing



PCB Land Pattern

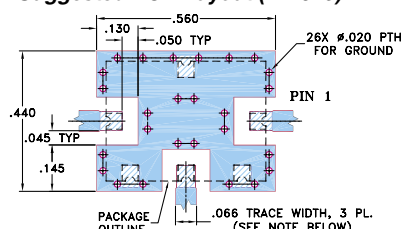


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch)

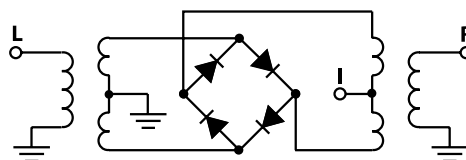
A	B	C	D	E	F	G	H	J	
.375	.500	.23	.020	.075	.250	.425	.187	.050	
9.53	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	
K	L	M	N	P	Q	R	S	T	wt.
.050	.070	.270	.540	.060	.095	.445	.208	.415	grams
1.27	1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8

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

Electrical Schematic



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Performance Charts

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