

Surface Mount Frequency Mixer

Level 13 (LO Power +13 dBm) 40 to 2500 MHz

SYM-25DMHW+ SYM-25DMHW



CASE STYLE: TTT167
PRICE: \$8.95 ea. QTY (10-49)

+ 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.

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

Pin Connections

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

Features

- wideband, 40 to 2500 MHz
- low conversion loss, 6.6 dB typ.
- high IP3, 26 dBm typ.
- IF response to DC

Applications

- cellular
- PCS
- satellite distribution

Electrical Specifications

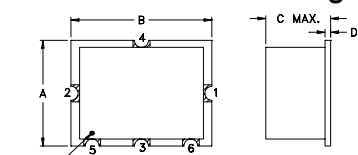
FREQUENCY (MHz)	CONVERSION LOSS* (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
		L	M	U	L	M	U							
40-2500	DC-1000*	47	32	37	27	35	22	38	28	35	25	38	20	26

1 dB COMP.: +9 dBm typ.

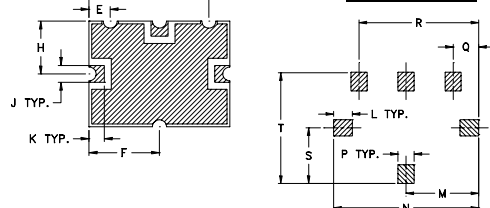
*Conversion loss increases up to 6 dB higher as IF
frequency decreases from 5MHz to DC.

L = low range [f_L to $10 f_L$]
M = mid range [$10 f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

Outline Drawing



PCB Land Pattern



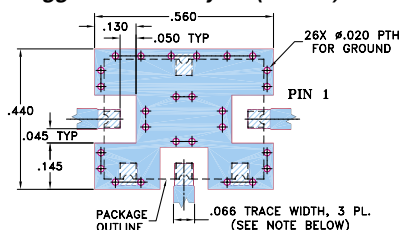
Suggested Layout,
Tolerance to be within ±.002

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)

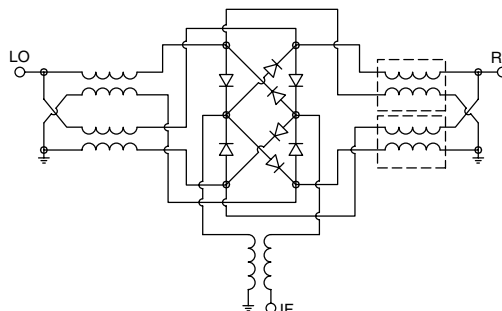


- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. GROUND PAD SHALL BE FREE OF SOLDER MASK IF REQUIRED FOR SOLDERING.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■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

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
10.10	80.10	6.05	53.30	37.85	1.14
100.10	170.10	6.13	61.96	37.66	1.14
200.10	270.10	6.20	57.62	37.58	1.17
400.10	470.10	6.17	51.91	37.25	1.28
644.24	714.24	6.32	48.85	36.97	1.49
805.62	875.62	6.34	44.29	34.60	1.70
1000.10	1070.10	6.49	40.91	34.12	2.01
1209.07	1279.07	6.72	36.71	32.67	2.27
1451.13	1521.13	6.87	35.32	33.07	2.79
1500.10	1570.10	6.99	35.51	33.59	2.90
1612.51	1682.51	6.98	36.55	34.68	2.94
1854.58	1924.58	7.66	35.12	37.81	2.52
2000.10	2070.10	8.04	33.74	39.74	2.41
2177.34	2247.34	8.02	32.04	37.96	2.21
2258.03	2328.03	8.00	31.23	35.83	2.14
2419.41	2489.41	7.92	30.39	32.11	2.09
2500.10	2430.10	7.67	29.98	30.34	1.82

Electrical Schematic



Performance Charts

