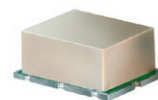


Surface Mount Frequency Mixer

Level 10 (LO Power +10 dBm) 40 to 2500 MHz

SYM-25DLHW+ SYM-25DLHW



Maximum Ratings

Operating Temperature	-40°C to 85°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	2
RF	1
IF	3
GROUND	4,5,6

Features

- wide bandwidth, 40 to 2500 MHz
- low conversion loss, 6.3 dB typ.
- good L-R isolation, 40 dB typ.
- IF response to DC

Applications

- cellular
- PCS
- satellite distribution

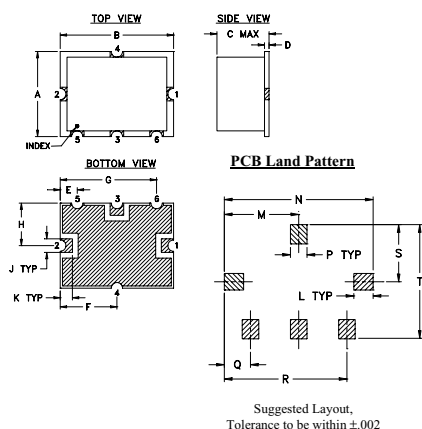
CASE STYLE: TTT167

PRICE: \$7.95 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.

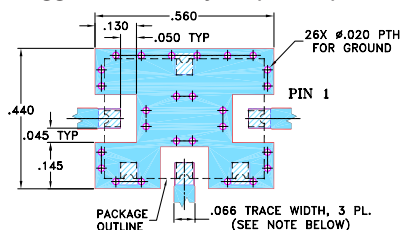
Outline Drawing



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.
4. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER), SEE NOTE 2.
5. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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*	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.
		48 28	40 25	38 22	36 25	33 25	39 21	22

1 dB COMP: +5 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 band [$2 f_L$ to $f_U/2$]

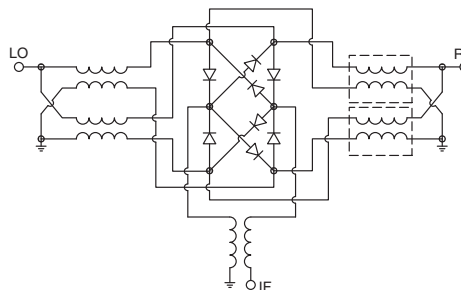
M = mid range [$10 f_L$ to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
30.26	60.26	6.28	60.74	38.48	1.12	1.57
110.92	140.92	6.34	62.91	37.88	1.15	1.50
211.74	241.74	6.35	59.37	37.88	1.20	1.48
312.56	342.56	6.41	55.65	38.03	1.27	1.44
413.38	443.38	6.40	53.27	38.02	1.35	1.39
514.20	544.20	6.43	51.22	37.46	1.42	1.34
615.02	645.02	6.45	49.78	36.59	1.51	1.29
816.66	846.66	6.57	44.86	34.93	1.64	1.18
1018.30	1048.30	6.70	41.69	34.07	1.77	1.08
1240.10	1270.10	6.85	38.25	33.62	1.80	1.09
1401.41	1431.41	7.07	37.62	34.60	1.78	1.22
1502.23	1532.23	7.21	38.08	36.08	1.78	1.31
1643.38	1673.38	7.45	39.08	38.33	1.80	1.43
1804.69	1834.69	7.80	40.55	46.51	1.81	1.57
1905.51	1935.51	8.02	40.98	50.46	1.81	1.65
2006.33	2036.33	8.24	40.99	42.85	1.78	1.74
2207.97	2237.97	8.36	38.87	34.59	1.65	1.89
2308.79	2338.79	8.33	37.86	32.15	1.61	1.96
2409.61	2439.61	8.32	36.39	30.29	1.57	2.00
2510.43	2540.43	8.28	34.69	28.65	1.56	2.04

Electrical Schematic



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IF/RF MICROWAVE COMPONENTS

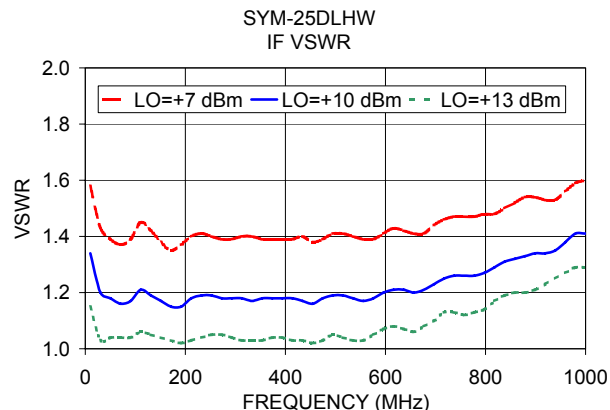
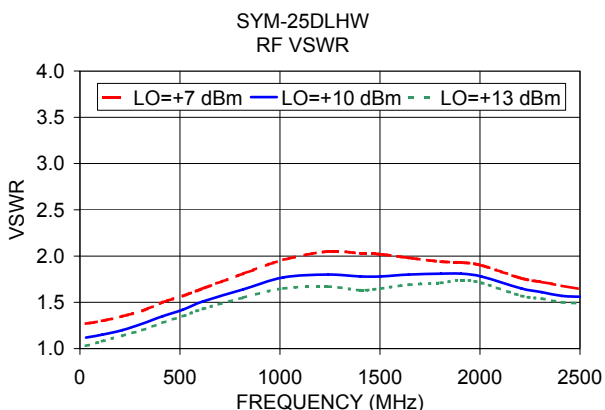
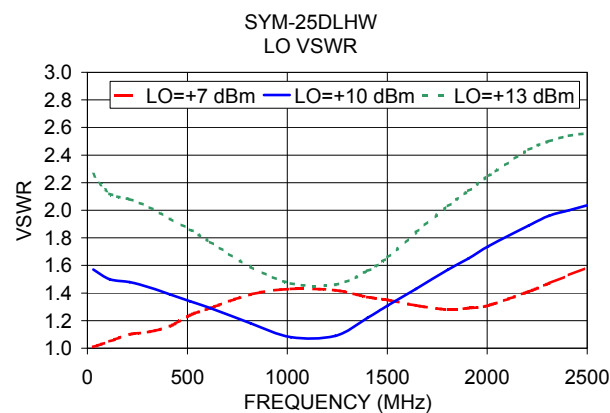
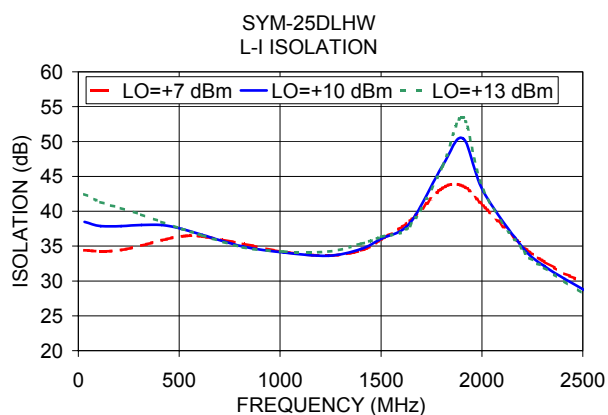
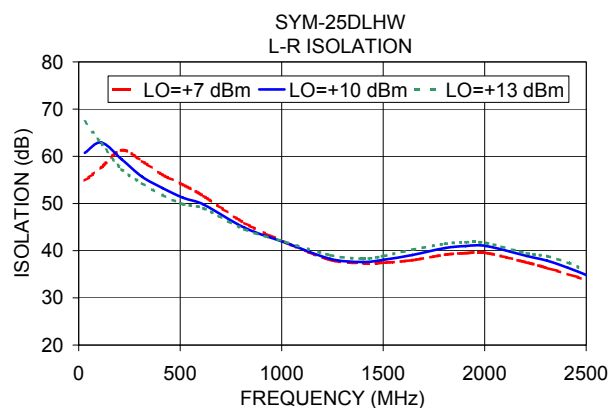
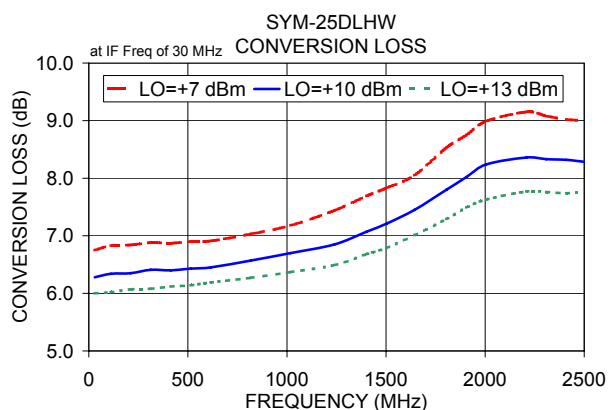
For detailed performance specs
& shopping online see web site

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Performance Charts

SYM-25DLHW+ SYM-25DLHW



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