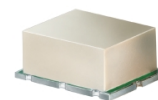


High IP3 Frequency Mixer

SYM-18H+ SYM-18H

Level 17 (LO Power +17 dBm) 5 to 1800 MHz



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, 5 to 1800 MHz
- low conversion loss, 5.75 dB typ.
- high IP3, 30 dBm typ.
- very high L-R isolation, 45dB typ.; & L-I isolation, 50 dB typ.

Applications

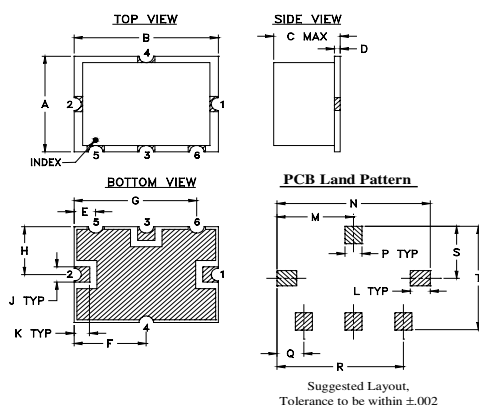
- cellular
- PCS
- GPS
- satellite distribution

CASE STYLE: TTT167
PRICE: \$9.95 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.

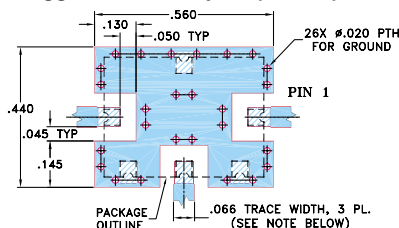
Outline Drawing



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

Electrical Specifications

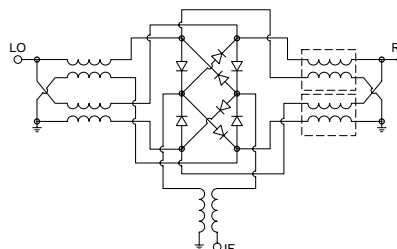
FREQUENCY (MHz)	CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
	LO/RF	IF	L	M	U	L	M	U							
5-1800	10-1500*	5.75	50	28	45	35	40	24	39	22	50	30	30	22	30

1 dB COMP.: +14 dBm typ.
m=mid band (2f_l to f_u/2)
*Conversion loss measured at IF frequency between 10 and 1300 MHz
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]

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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
5.00	35.00	5.61	50.30	38.90	1.58	1.80
8.00	38.00	5.53	50.90	39.40	1.36	1.78
10.00	40.00	5.56	51.30	39.60	1.31	1.78
50.00	80.00	5.41	55.80	42.20	1.22	1.77
100.00	130.00	5.39	54.70	44.40	1.25	1.73
110.48	140.48	5.34	53.80	44.10	1.29	1.74
220.45	250.45	5.68	48.00	48.90	1.43	1.73
330.43	360.43	5.61	45.10	53.30	1.55	1.59
440.40	470.40	5.72	44.40	52.20	1.76	1.50
500.00	530.00	5.55	44.30	48.10	1.80	1.51
550.38	580.38	5.65	45.40	48.00	1.94	1.39
660.35	690.35	5.82	47.50	43.10	2.08	1.33
770.33	800.33	6.21	50.80	40.00	2.30	1.32
880.30	910.30	6.46	52.20	38.70	2.35	1.25
990.28	1020.28	6.72	53.70	37.60	2.52	1.22
1000.00	1030.00	6.57	52.40	37.70	2.61	1.21
1100.25	1130.25	6.39	46.80	36.10	2.52	1.23
1210.23	1240.23	6.72	42.30	33.40	2.43	1.24
1320.20	1350.20	6.96	38.90	31.20	2.40	1.25
1800.00	1830.00	7.39	32.00	30.20	2.30	1.88

Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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Performance Charts

