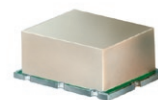


High IP3 Frequency Mixer

SYM-20DHW+ SYM-20DHW

Level 17 (LO Power +17 dBm) 10 to 2000 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

- low conversion loss, 6.2 dB typ.
- high IP3, 27 dBm typ.
- wideband, 10 to 2000 MHz
- excellent L-R isolation, 42 dB typ.;
- & L-I isolation, 40 dB typ.
- triple balanced mixer

Applications

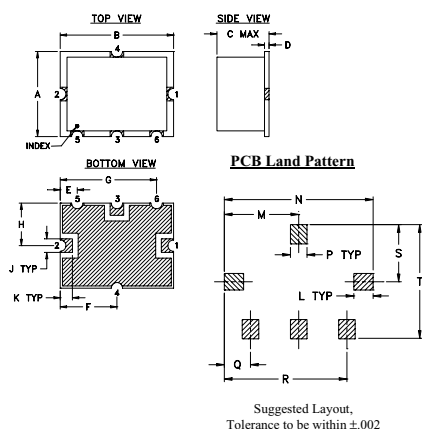
- GPS
- UHF

CASE STYLE: TTT167
PRICE: \$17.95 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.

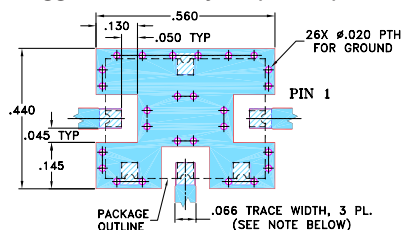
Outline Drawing



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)



Electrical Specifications

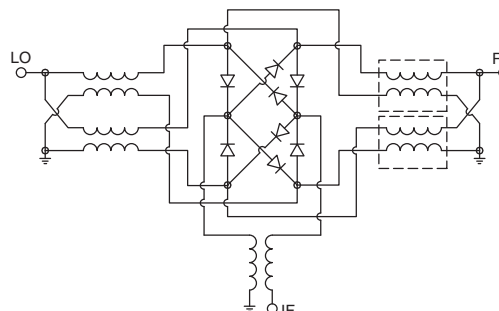
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
LO/RF	IF	Mid-Band		Total Range	L	M	U	L	M	U								
f_L - f_U		\bar{X}	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.						
10-2000	10-1800	6.2	.10	7.5	8.8	33	20	40	25	37	22	44	30	42	28	34	22	27

1 dB COMP.: +14 dBm typ. L = low range [f_L to 10 f_U] 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
10.00	40.00	6.63	31.10	48.70	1.63	1.75
16.69	46.69	6.46	31.60	49.00	1.39	1.70
27.86	57.86	6.23	32.40	48.80	1.26	1.73
46.49	76.49	5.99	33.70	49.60	1.17	1.69
77.60	107.60	5.93	34.60	49.60	1.16	1.62
129.51	159.51	5.88	35.50	49.90	1.18	1.69
216.16	246.16	6.00	36.50	49.70	1.28	1.75
360.78	390.78	6.20	37.10	46.10	1.61	1.57
602.15	632.15	6.65	38.70	41.10	2.27	1.50
1005.00	1035.00	6.43	37.20	37.80	2.49	1.38
1104.50	1134.50	6.18	36.20	36.80	2.23	1.36
1204.00	1234.00	6.06	36.10	35.70	1.97	1.34
1303.50	1333.50	6.16	35.50	35.10	1.88	1.35
1403.00	1433.00	6.09	34.50	35.50	1.70	1.37
1502.50	1532.50	6.01	34.90	35.20	1.58	1.43
1602.00	1632.00	6.16	35.50	35.50	1.49	1.45
1700.00	1730.00	6.60	35.70	35.40	1.48	1.39
1801.00	1831.00	6.86	35.40	34.30	1.41	1.32
1900.50	1930.50	7.16	33.50	33.30	1.39	1.29
2000.00	2030.00	7.36	32.00	31.40	1.28	1.28

Electrical Schematic



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For detailed performance specs & shopping online see web site

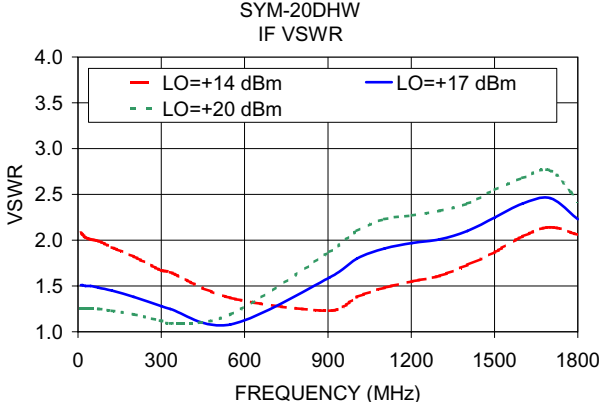
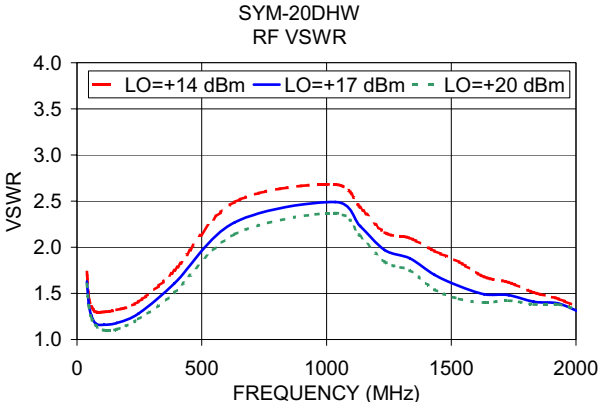
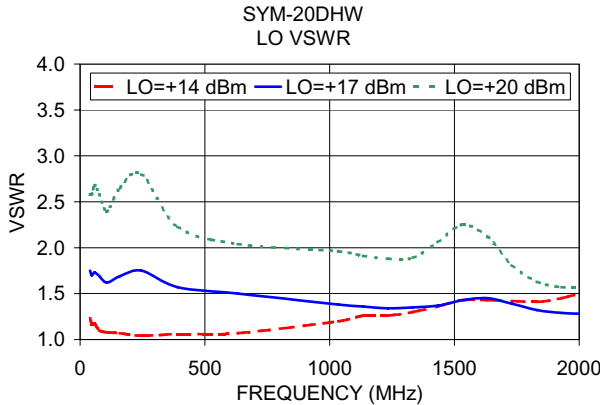
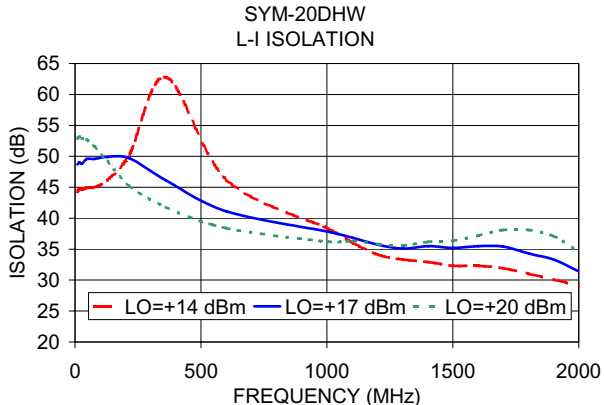
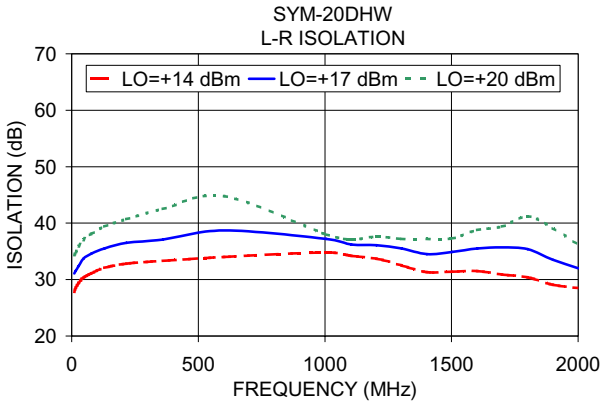
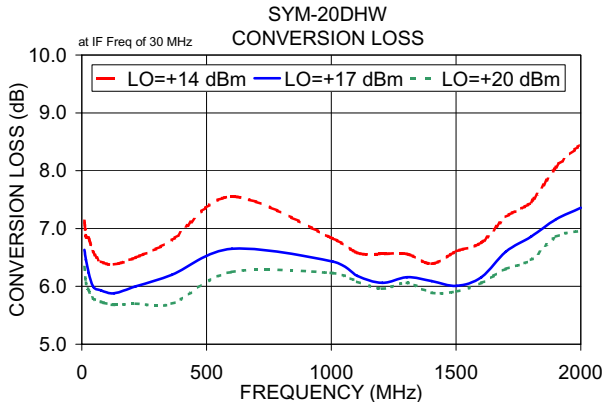
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IF/RF MICROWAVE COMPONENTS

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Performance Charts



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