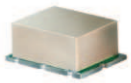
High IP3

Frequency Mixer

SYM-10DH+
SYM-10DH

Level 17 (LO Power +17 dBm) 800 to 1000 MHz



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.

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

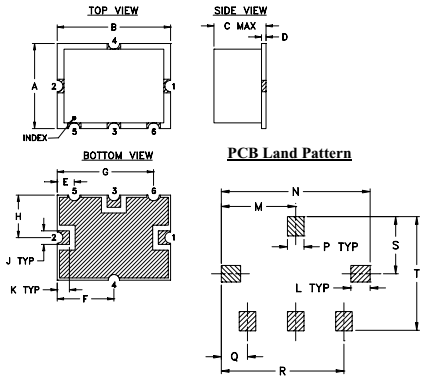
Features

- low conversion loss, 7.6 dB typ.
- excellent L-R isolation, 45 dB typ. & L-I isolation, 29 dB typ.
- high IP3, 31 dBm typ.
- excellent LO & RF VSWR, 1.32:1 typ. excellent IF VSWR, 1.1:1 typ.

Applications

- cellular
- ISM/SMR/GSM

Outline Drawing



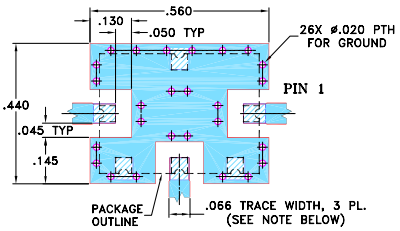
Suggested Layout,
Tolerance to be within ±.002

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	
.070	.270	.540	.060	.095	.445	.208	.415	wt.
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	grams 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

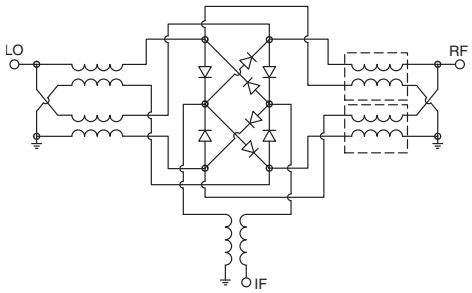
FREQUENCY (MHz)		CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF f_L-f_U	IF	$\overline{X}$	Total Range Max.	Typ.	Min.	Typ.	Min.	Typ.
800-1000	20-200	7.6	9.3	45	34	29	20	31

1 dB COMP.: +14 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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
800.10	801.10	7.45	41.49	30.20	1.29	1.22
810.63	811.63	7.48	41.53	30.14	1.29	1.21
821.15	822.15	7.50	41.50	30.05	1.30	1.20
831.68	832.68	7.49	41.42	30.01	1.31	1.20
842.21	843.21	7.48	41.37	29.94	1.32	1.20
852.73	853.73	7.46	41.31	29.89	1.33	1.21
863.26	864.26	7.52	41.41	29.88	1.34	1.21
873.78	874.78	7.59	41.44	29.78	1.35	1.21
884.31	885.31	7.68	41.41	29.71	1.35	1.20
894.84	895.84	7.76	41.43	29.74	1.36	1.19
905.36	906.36	7.82	41.42	29.74	1.36	1.18
915.89	916.89	7.84	41.16	29.61	1.37	1.17
926.42	927.42	7.85	40.86	29.53	1.38	1.17
936.94	937.94	7.86	40.49	29.43	1.40	1.17
947.47	948.47	7.90	40.18	29.32	1.41	1.17
958.00	959.00	7.95	40.09	29.25	1.42	1.17
968.52	969.52	8.04	40.04	29.19	1.43	1.17
979.05	980.05	8.14	40.07	29.08	1.44	1.15
989.57	990.57	8.25	40.13	29.03	1.45	1.14
1000.10	1001.10	8.35	40.12	29.02	1.46	1.13

Electrical Schematic

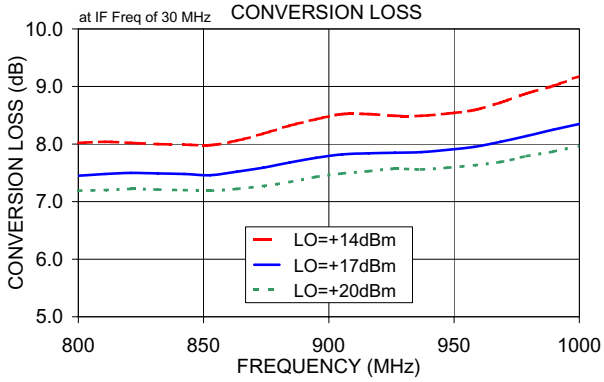


For detailed performance specs & shopping online see web site

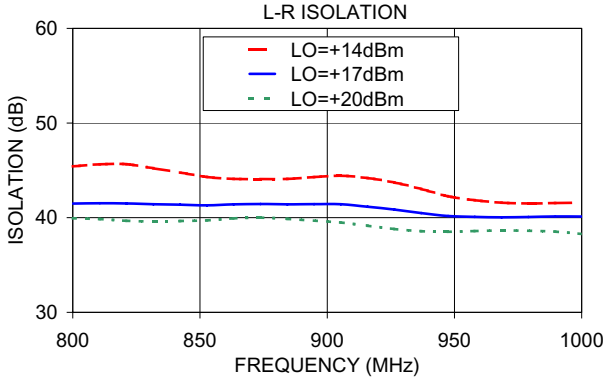
REV. E
M112207
SYM-10DH
ED-6487/2
DJ/TD/AM
091006

Performance Charts

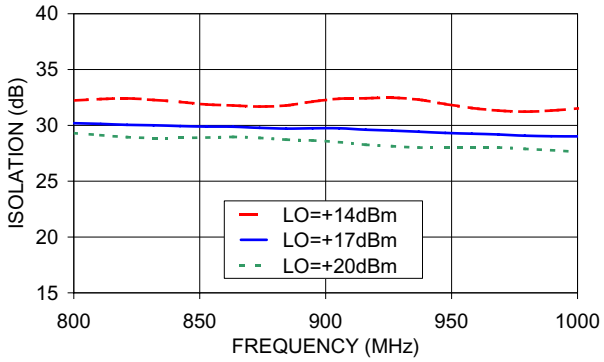
SYM-10DH
CONVERSION LOSS
at IF Freq of 30 MHz



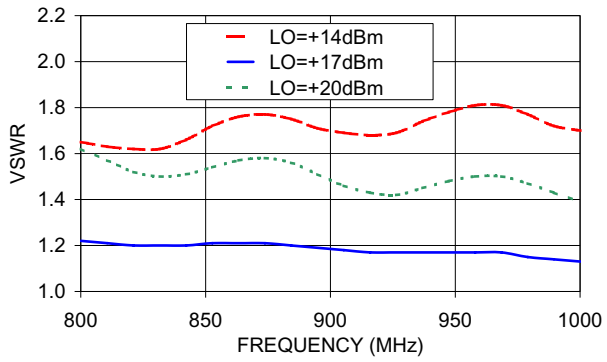
SYM-10DH
L-R ISOLATION



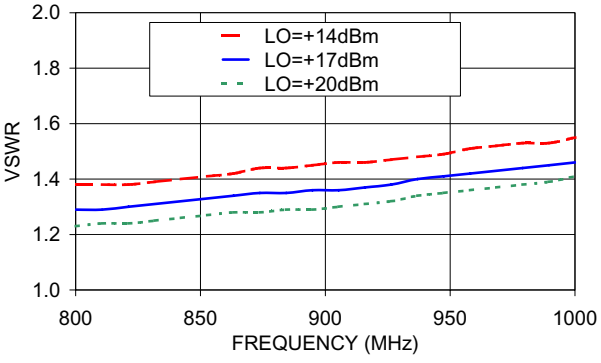
SYM-10DH
L-I ISOLATION



SYM-10DH
LO VSWR



SYM-10DH
RF VSWR



SYM-10DH
IF VSWR