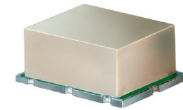


# X2 Frequency Multiplier

## SYK-2R+ SYK-2R

50Ω Output 20 to 2000 MHz



### Maximum Ratings

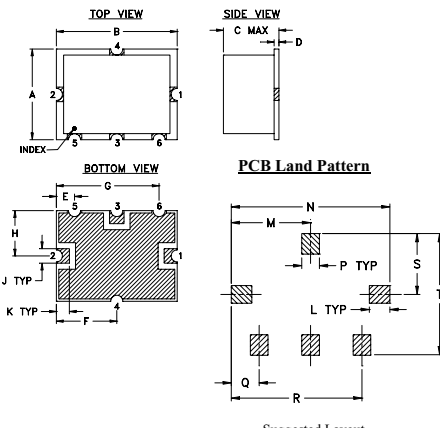
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

INPUT	2
OUTPUT	1
GROUND	4,5,6
NOT USED	3

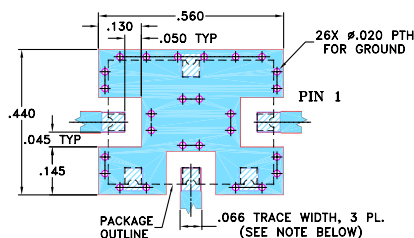
### Outline Drawing



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

### Features

- wideband, 20 to 2000 MHz
- low conversion loss, 10.5 dB typ.

### Applications

- synthesizers
- local oscillators

CASE STYLE: TTT167  
PRICE: \$29.95 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.

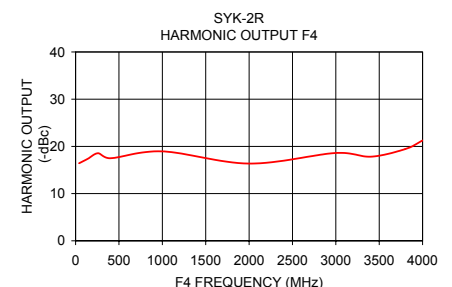
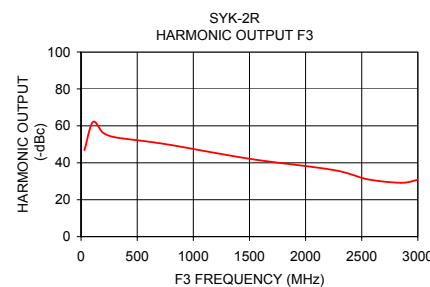
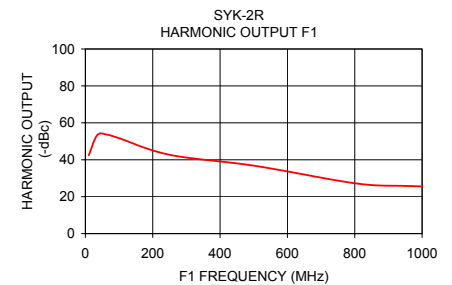
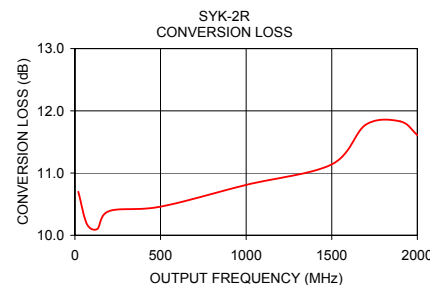
### Electrical Specifications at 25°C

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1 Input	F2 Output	Min.	Max.	Typ.	Max.	F1		F3		F4	
2	10-500	20-1000	12	16	10.5	14.0	35	25	42	25	20	10
	500-1000	1000-2000	12	16	11.5	16.0	32	20	37	20	20	10

\* Harmonics of input frequency below the power level of F2.

### Typical Performance Data 25°C

Input Frequency (MHz)	Conversion Loss (dB) F2	F1	F3	F4
10.00	10.70	42.42	46.82	16.42
35.00	10.18	53.30	62.08	17.36
65.00	10.10	53.60	56.32	18.56
100.00	10.39	51.67	53.85	17.49
250.00	10.46	42.71	50.14	18.94
500.00	10.81	36.79	42.16	16.36
750.00	11.14	28.68	36.07	18.60
850.00	11.78	26.29	31.08	17.82
950.00	11.83	25.85	29.19	19.43
1000.00	11.61	25.54	30.74	21.25



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED  
IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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