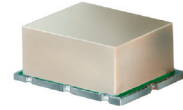


# X2 Frequency Multiplier

## SYK-2R+ SYK-2R

50Ω Output 20 to 2000 MHz



### Maximum Ratings

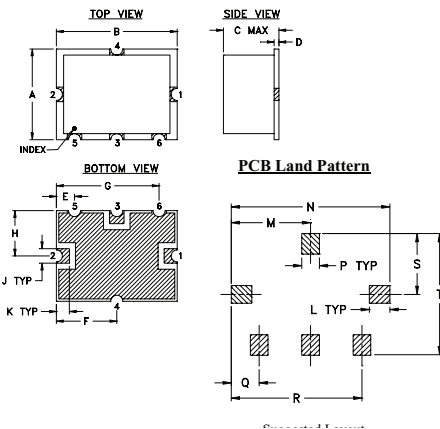
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

### Pin Connections

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

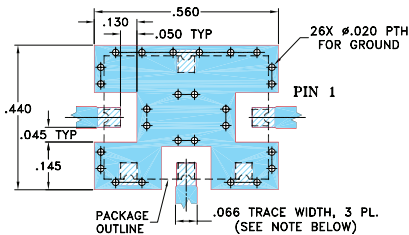
### Outline Drawing



### 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:**
- 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.
  - THE USE OF SOLDER MASK OVER THE GROUND AREA UNDER THE UNIT AS SHOWN IS RECOMMENDED TO PREVENT POTENTIAL SHORTING. IF USER CHOOSES TO EXPOSE METAL UNDER THE ENTIRE UNIT GROUND PAD FOR IMPROVED GROUNDING, IT IS RECOMMENDED A SOLDER MASK DAM BE APPLIED AROUND EACH GROUND PAD TO ENSURE FILLET AND CONNECTION AT GROUND PADS.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

### 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**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

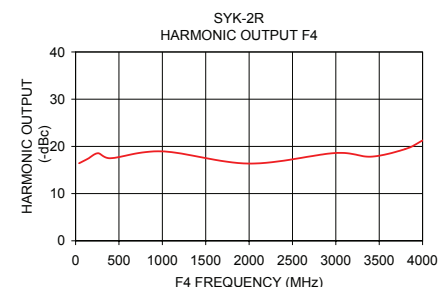
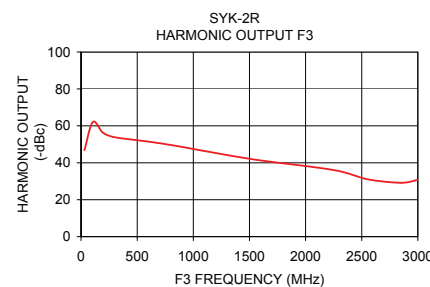
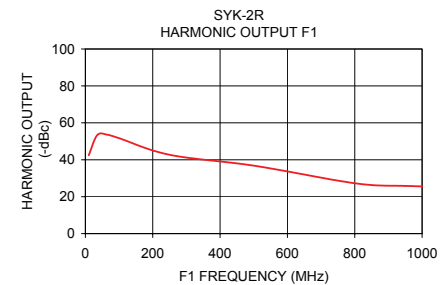
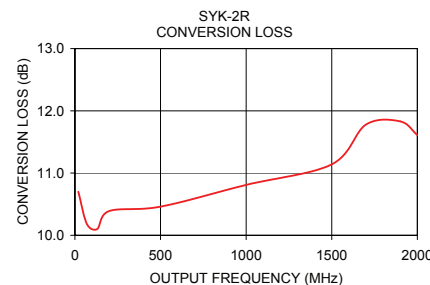
### Electrical Specifications at 25°C

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1	F2	Min.	Max.	Typ.	Max.	F1		F3		F4	
	Input	Output					Typ.	Min.	Typ.	Min.	Typ.	Min.
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	Harmonic Output (-dBc)		
		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



### Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document 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)

