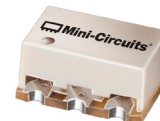


# X3 Frequency Multiplier

50Ω Output 900 to 1200 MHz

## RMK-3-122+



CASE STYLE: TT1224  
PRICE: \$8.95 ea. QTY (10-49)

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

### Maximum Ratings

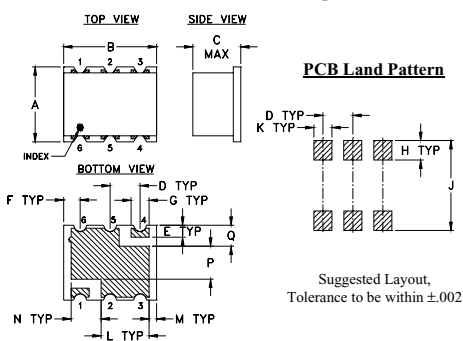
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	17 dBm

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

### Pin Connections

INPUT	1
OUTPUT	4
GROUND	2,3,5,6

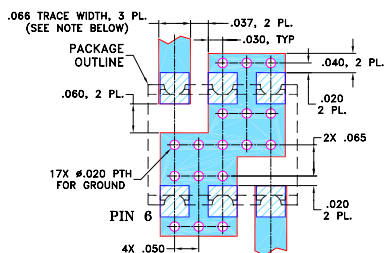
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
.25	.31	.16	.100	.040	.055	.060	.065
6.35	7.87	4.06	2.54	1.02	1.40	1.52	1.65
J	K	L	M	N	P	Q	wt.
.300	.060	.160	.025	.100	.110	.070	grams
7.62	1.52	4.06	0.64	2.54	2.79	1.78	0.16

### Demo Board MCL P/N: TB-393 Suggested PCB Layout (PL-258)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Notes

A. 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.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
C. The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- broadband
- low conversion loss, 14.5 dB typ.
- high rejection F2, -48 dBc typ.; F4, -52 dBc typ.
- low cost
- aqueous washable

### Applications

- synthesizers
- local oscillators
- satellite up and down converters

### Electrical Specifications

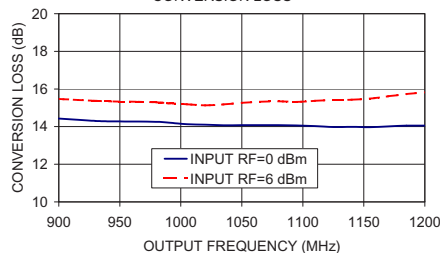
MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBC)		
	F1 Input	F3 Output	Min.	Max.	Typ.	Max.	F1 Typ. Min.	F2 Typ. Min.	F4 Typ. Min.
3	300-400	900-1200	0	6	14.5	18	6	-3	48 33 52 40

\* Harmonics of input frequency below the power level of F3

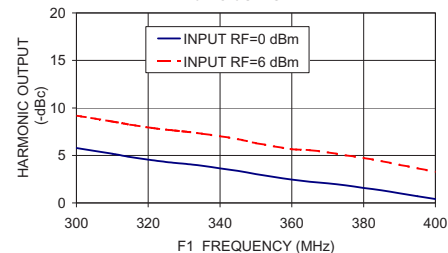
### Typical Performance Data

Input Frequency (MHz)	INPUT RF= 0 dBm				INPUT RF= 6 dBm			
	Conversion Loss (dB)	Harmonic Output Below F3 (-dBc)			Conversion Loss (dB)	Harmonic Output Below F3 (-dBc)		
	F3	F1	F2	F4	F3	F1	F2	F4
300.00	14.43	5.78	50.39	49.94	15.47	9.19	57.23	51.74
310.00	14.30	5.17	49.76	50.11	15.37	8.56	56.40	51.93
315.00	14.28	4.84	49.36	50.23	15.34	8.24	55.95	52.07
321.00	14.27	4.50	48.88	50.36	15.32	7.89	55.34	52.31
327.00	14.25	4.23	48.56	50.46	15.29	7.63	55.00	52.44
330.00	14.21	4.12	48.41	50.53	15.24	7.52	54.81	52.59
335.00	14.13	3.92	48.15	50.64	15.19	7.29	54.41	52.71
340.00	14.10	3.64	47.81	50.79	15.13	7.02	54.00	52.88
345.00	14.07	3.37	47.61	50.93	15.18	6.71	53.71	53.02
350.00	14.08	3.03	47.35	51.03	15.26	6.29	53.27	53.11
355.00	14.08	2.74	47.10	51.17	15.32	5.96	52.88	53.16
360.00	14.08	2.45	46.82	51.33	15.35	5.65	52.49	53.26
365.00	14.06	2.22	46.25	53.03	15.31	5.56	52.52	53.78
370.00	14.03	2.07	48.18	53.27	15.37	5.32	52.29	53.97
375.00	13.98	1.85	47.96	53.50	15.42	5.01	51.91	54.04
380.00	13.99	1.58	47.75	53.70	15.43	4.74	51.63	54.21
385.00	13.97	1.32	47.64	53.91	15.49	4.40	51.41	54.31
390.00	14.01	1.01	47.48	54.07	15.61	4.02	51.06	54.34
395.00	14.05	0.71	47.30	54.26	15.73	3.66	50.79	54.52
400.00	14.05	0.41	47.11	54.53	15.82	3.26	50.42	54.57

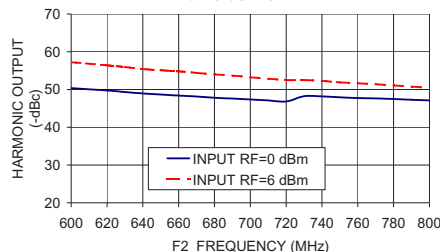
RMK-3-122+  
CONVERSION LOSS



RMK-3-122+  
HARMONIC OUTPUT F1



RMK-3-122+  
HARMONIC OUTPUT F2



RMK-3-122+  
HARMONIC OUTPUT F4

