

# X3 Frequency Multiplier

50Ω Output 6600 to 12000 MHz

## RMK-3-123+



Generic photo used for illustration purposes only  
CASE STYLE: TT1224

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500

### Maximum Ratings

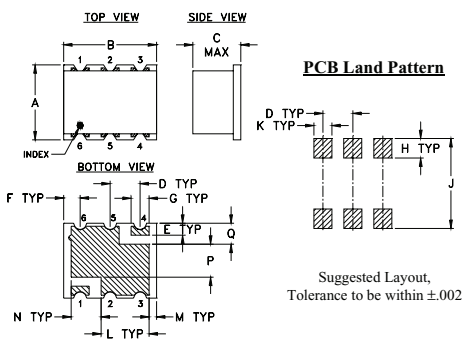
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	17 dBm

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

### Pin Connections

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

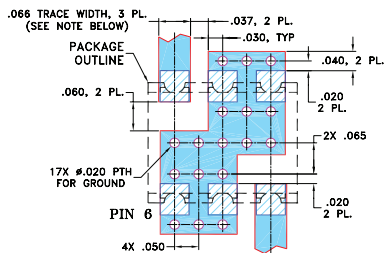
### Outline Drawing



### 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

- 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-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
- high rejection F2, -33 dBc typ.; F4, -45 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	2200-4000	6600-12000	13	17	15.5	21	5	-5	33	22	45	24

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

### Typical Performance Data

Input Frequency (MHz)	INPUT RF= 13 dBm				INPUT RF= 17 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
2200.00	17.10	6.46	43.81	41.26	15.62	10.66	45.36	50.70
2400.00	14.76	7.47	42.53	40.96	14.11	10.86	44.54	52.89
2500.00	14.46	7.00	42.64	36.29	15.01	9.37	42.60	41.84
2700.00	14.39	6.21	41.67	46.46	14.73	8.74	43.18	50.24
2800.00	14.82	5.27	41.35	54.46	15.28	7.70	42.28	54.65
2900.00	15.15	4.65	41.77	62.55	15.56	7.05	40.84	53.91
3000.00	15.71	3.85	42.22	52.88	15.82	6.46	38.36	53.31
3100.00	15.33	3.81	40.33	45.93	15.53	6.25	35.03	51.83
3150.00	15.36	3.71	39.92	44.99	15.55	5.93	33.63	52.04
3240.00	15.22	3.51	37.49	43.68	15.53	5.65	31.88	51.49
3360.00	15.07	3.32	35.11	43.68	15.36	5.45	30.38	49.72
3430.00	14.88	3.22	33.83	43.88	15.58	5.07	30.14	47.92
3460.00	15.07	3.03	33.08	43.58	15.58	4.96	30.01	47.07
3520.00	15.17	2.71	31.33	43.53	15.86	4.48	28.99	45.90
3580.00	15.55	2.23	30.04	43.74	16.17	4.07	28.81	44.40
3640.00	15.82	1.77	29.35	44.29	16.43	3.58	29.12	43.44
3700.00	16.22	1.25	28.63	47.10	16.79	3.08	29.36	41.94
3820.00	17.26	-0.08	38.02	50.31	17.81	1.85	34.73	38.30
3880.00	17.64	-0.56	35.44	40.65	18.20	1.29	36.72	38.63
4000.00	18.82	-1.97	28.32	37.36	19.11	-0.09	30.37	41.63

