

# X3 Frequency Multiplier

50Ω Output 7800 to 15000 MHz

## RMK-3-153+



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

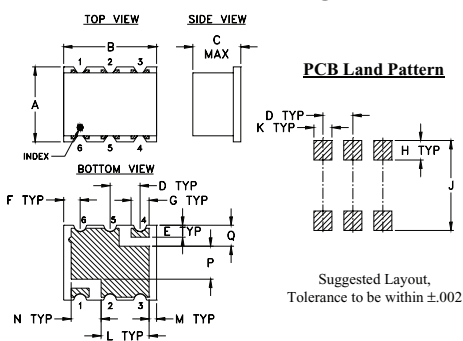
### Maximum Ratings

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

### Pin Connections

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

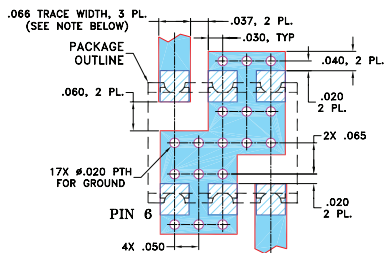
### Outline Drawing



### Outline Dimensions (inch)

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, -48 dBc typ.; F4, -50 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	2600-5000	7800-15000	7	11	17	21	1	-9	48 33 50 35

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

### Typical Performance Data

Input Frequency (MHz)	INPUT RF= 7 dBm				INPUT RF= 11 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
2600.00	18.17	6.99	55.60	66.09	17.39	10.13	58.87	57.99
2800.00	17.74	6.02	53.85	52.11	17.80	8.34	55.27	48.19
3000.00	15.97	6.51	55.08	65.88	17.46	7.57	52.69	50.64
3200.00	16.62	4.76	51.26	68.74	18.31	5.54	48.84	48.36
3400.00	15.79	4.54	49.83	60.60	17.91	4.96	46.76	56.47
3600.00	16.55	3.06	51.39	53.84	17.45	4.72	47.79	54.67
3800.00	17.34	1.18	47.80	50.82	17.29	3.95	46.49	48.95
4000.00	17.60	0.48	45.77	52.01	16.63	3.79	48.15	50.03
4200.00	17.50	0.43	41.45	61.42	15.87	3.52	61.17	61.58
4400.00	17.78	-1.20	43.95	53.89	15.89	2.79	51.23	64.56
4540.00	16.79	-1.04	45.45	52.58	16.15	1.86	47.94	63.62
4700.00	16.60	-1.50	48.14	51.47	17.36	0.40	45.25	58.86
4860.00	17.33	-2.94	47.98	49.14	17.89	-1.19	44.75	52.98
4900.00	17.10	-2.90	47.84	49.63	17.58	-1.14	45.62	53.29
4950.00	17.76	-3.69	46.83	49.18	17.70	-1.42	46.22	53.79
5000.00	17.39	-3.75	44.06	50.72	16.96	-1.13	45.13	55.56

