

# X3 Frequency Multiplier

## RMK-3-1262+

50Ω Output 6750 to 12600 MHz

### The Big Deal

- Broadband, output frequency 6750 to 12600 MHz
- High rejection of adjacent harmonics, 45dB below the carrier, F3
- Small package size, 0.25" x 0.3"
- Low cost \$9.45, quantity of 1000



CASE STYLE: TT1224

### Product Overview

The RMK-3-1262+ is a self contained frequency tripler that does not require external components. It is constructed using a specially designed diode quad ring configuration to enable high rejection of adjacent harmonics. The tripler is packaged in a miniature 0.3" x 0.25" case, with wrap-around terminations to enable convenient high density assembly.

### Key Features

Feature	Advantages
Broadband frequency tripler Input 2250 to 4200 MHz Output 6750 to 12600 MHz	Enables the use of low frequency VCO's and Synthesizers to provide high frequency sources at low cost.
Low conversion loss, 15.5 dB	Enables output power to be sufficiently high so that amplifier gain requirements following the tripler is reduced.
High rejection of adjacent harmonics, F2, 45 dB and F4, 50 dB	Extremely high rejection of F2 and F4 harmonics enables a significant reduction of unwanted signals without the need for filters.
Low cost	Enables a practical solution to achieve high frequency sources from low cost, lower frequency VCO's and synthesizers.



ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs  
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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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## RMK-3-1262+



CASE STYLE: TT1224  
PRICE: \$11.95 ea. QTY (10-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify 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

### Features

- broadband
- high rejection F2, -45 dBc typ.; F4, -50 dBc typ.
- low cost
- aqueous washable

### Applications

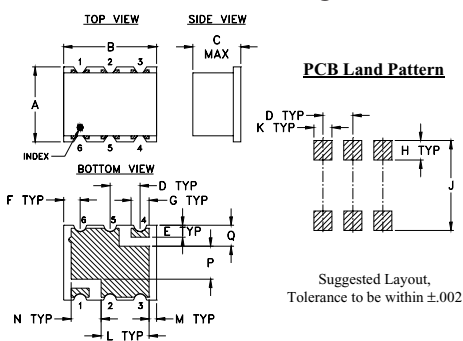
- synthesizers
- local oscillators
- satellite up and down converters

### 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	2250-4200	6750-12600	7	11	15.5	20	5	-7	45 31 50 35

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

### Outline Drawing



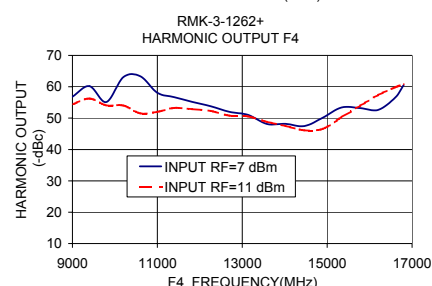
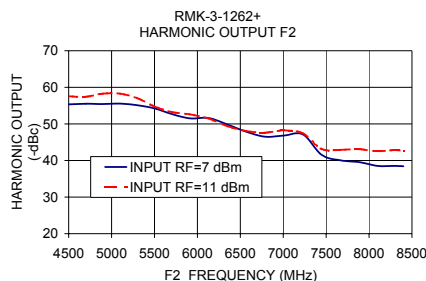
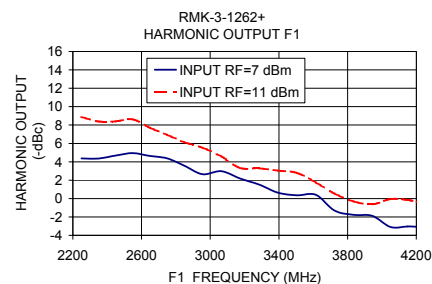
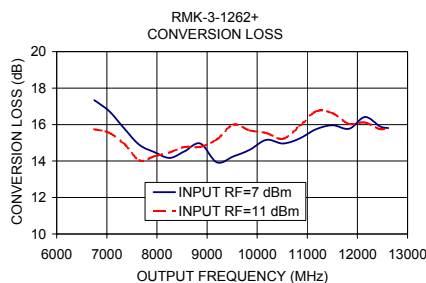
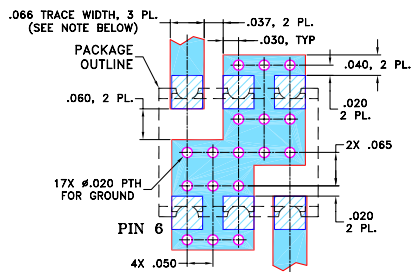
### Outline Dimensions (inch)

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

### Typical Performance Data

Input Frequency (MHz)	INPUT RF= 7 dBm				INPUT RF= 11 dBm			
	Conversion Loss (dB) F3	Harmonic Output (dBc) F1	Harmonic Output (dBc) F2	Harmonic Output (dBc) F4	Conversion Loss (dB) F3	Harmonic Output (dBc) F1	Harmonic Output (dBc) F2	Harmonic Output (dBc) F4
2250.00	17.34	4.37	55.37	56.83	15.75	8.87	57.56	54.38
2350.00	16.73	4.35	55.50	60.18	15.55	8.39	57.41	56.26
2450.00	15.78	4.68	55.43	55.15	14.93	8.40	58.27	54.07
2550.00	14.89	4.94	55.55	63.09	14.04	8.62	58.28	54.02
2650.00	14.49	4.64	55.10	63.33	14.26	7.69	57.02	51.50
2750.00	14.17	4.37	54.22	58.10	14.47	6.93	54.77	51.98
2850.00	14.53	3.57	52.72	56.68	14.77	6.12	53.26	53.23
2955.00	14.96	2.65	51.53	55.20	14.78	5.53	52.64	52.86
3065.00	13.93	2.97	51.62	53.77	15.19	4.58	51.48	52.28
3175.00	14.25	2.18	49.82	52.00	16.00	3.32	49.38	50.78
3285.00	14.62	1.52	47.86	51.01	15.68	3.29	48.08	50.55
3395.00	15.16	0.63	46.51	48.13	15.54	3.04	47.61	48.80
3505.00	14.96	0.35	46.85	48.16	15.22	2.79	48.25	47.53
3615.00	15.24	0.40	47.10	47.46	15.91	1.75	47.39	46.11
3725.00	15.75	-1.31	41.54	50.15	16.72	0.54	43.14	46.61
3835.00	15.96	-1.78	40.06	53.41	16.62	-0.31	42.91	50.32
3945.00	15.77	-1.88	39.53	53.18	16.04	-0.63	43.09	53.97
4050.00	16.41	-3.10	38.50	52.62	16.11	-0.06	42.56	57.35
4150.00	15.90	-3.04	38.51	56.51	15.75	-0.15	42.83	59.83
4200.00	15.81	-3.06	38.43	60.50	15.82	-0.36	42.58	60.83

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



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