

X3 Frequency Multiplier

RMK-3-93+

50Ω Output 5400 to 9000 MHz

The Big Deal

- Broadband tripler for 5.4-9 GHz signal production
- High rejection of F2 and F4 (-55 dBc typ)
- Low conversion loss, 15 dB typ
- Outstanding performance at a low price



CASE STYLE: TT1224

Product Overview

The RMK-3-93+ is a broadband frequency tripler offering excellent performance for C- to X-band signals. The aqueous washable and RoHS-compliant package features rugged, wire-welded construction, in a small 0.25" x 0.31" x 0.16" plastic case.

Key Features

Feature	Advantages
Broad bandwidth	Ideal for satellite up- and down-converters and line-of-sight communication links, as well as items operating in the 8.5-9.0 GHz radiolocation band
High rejection of F2 and F4	Proprietary internal circuitry achieves high harmonic suppression, keeping filtering requirements to a minimum
Low conversion loss	High output reduces external gain requirements after frequency tripling.
Low price	Practical, low cost solution for providing high frequency sources from lower frequency VCOs and synthesizers.



For detailed performance specs
& shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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RMK-3-93+



CASE STYLE: TT1224
PRICE: \$8.95 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

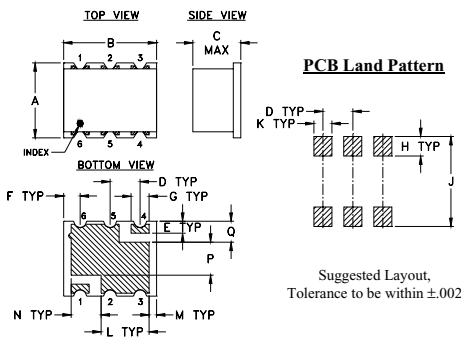
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	17 dBm

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

Pin Connections

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

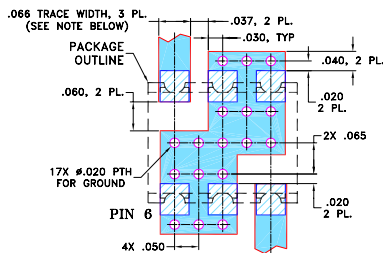
Outline Drawing



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)



Features

- broadband
- high rejection F2 & F4, -55 dBc typ.
- low cost
- aqueous washable

Applications

- synthesizers
- local oscillators
- satellite up and down converters

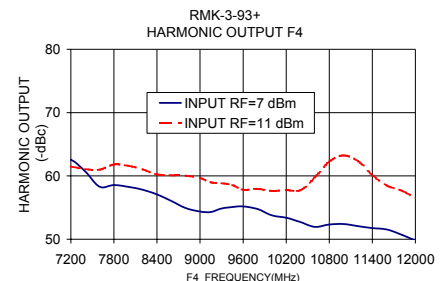
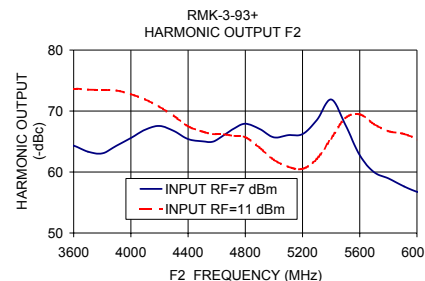
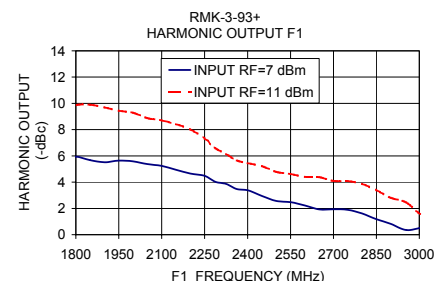
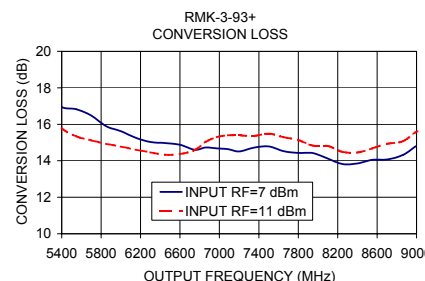
Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBC)					
	F1 Input	F3 Output	Min.	Max.	Typ.	Max.	F1 Typ.	F2 Typ.	F4 Typ.			
3	1800-3000	5400-9000	7	11	15	19.5	6	-6	55	35	55	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)		
		F1	F2	F4		F1	F2	F4
1800.00	16.94	5.94	64.33	62.56	15.79	9.86	73.68	61.49
1900.00	16.48	5.52	63.05	58.30	15.12	9.69	73.46	60.98
2000.00	15.62	5.58	65.59	58.27	14.78	9.29	72.77	61.61
2100.00	15.03	5.24	67.56	57.08	14.46	8.70	70.70	60.24
2200.00	14.88	4.66	65.40	54.92	14.37	8.01	67.50	60.03
2287.50	14.73	4.02	64.99	54.30	15.04	6.58	66.22	58.98
2325.00	14.68	3.86	66.04	54.86	15.30	6.15	66.18	58.85
2400.00	14.51	3.38	67.92	55.19	15.39	5.45	65.72	57.81
2450.00	14.72	2.95	67.05	54.79	15.36	5.22	64.01	57.96
2500.00	14.79	2.57	65.67	53.79	15.49	4.78	62.00	57.62
2550.00	14.53	2.48	66.05	53.40	15.30	4.62	60.87	57.76
2600.00	14.43	2.23	66.21	52.72	15.14	4.40	60.52	57.74
2650.00	14.42	1.93	68.53	51.96	14.83	4.38	62.14	59.76
2700.00	14.12	1.94	71.91	52.32	14.81	4.09	65.47	62.24
2750.00	13.82	1.89	67.73	52.40	14.49	4.08	68.87	63.23
2800.00	13.85	1.62	62.77	52.06	14.45	3.86	69.45	62.33
2850.00	14.05	1.18	59.98	51.75	14.68	3.39	67.86	60.15
2900.00	14.07	0.82	58.96	51.55	14.93	2.81	66.70	58.49
2955.00	14.33	0.35	57.62	50.67	15.08	2.45	66.24	57.64
3010.00	14.90	0.57	56.61	49.65	15.68	1.47	65.11	56.28



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