X3 Frequency Multiplier

RMK-3-122+

50Ω Output 900 to 1200 MHz

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

Pin Connections

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

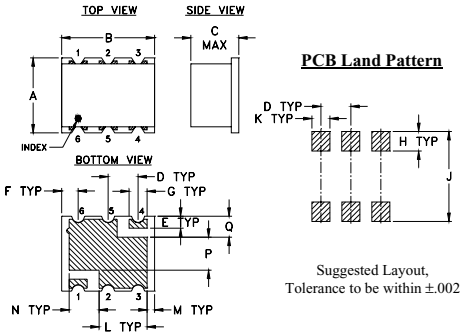
Features

- 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

Outline Drawing

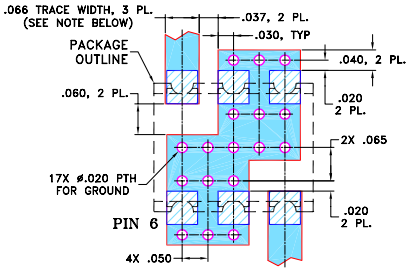


Outline Dimensions (inch / mm)

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	.250	.100	.110	.070	grams
7.62	1.52	4.06	6.35	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 RO4350B 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.

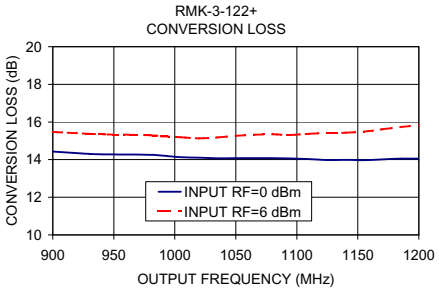
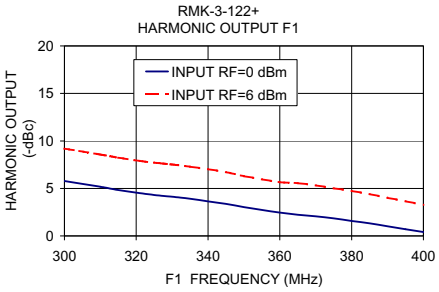
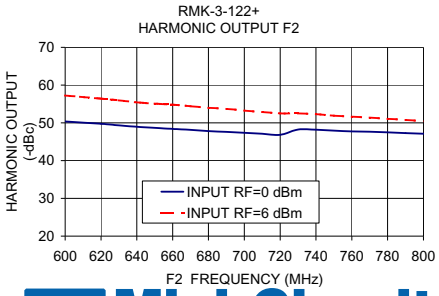
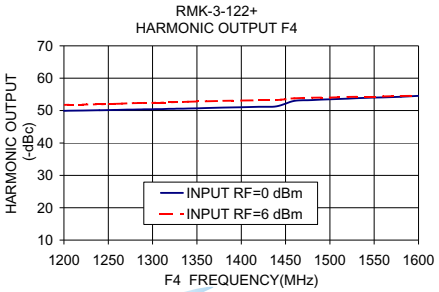
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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.	F1 Min.	F2 Typ.	F2 Min.	F4 Typ.	F4 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: Conversion Loss (dB) F3	Harmonic Output Below F3 (-dBc) F1	F2	F4	INPUT RF= 6 dBm: Conversion Loss (dB) F3	Harmonic Output Below F3 (-dBc) 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	48.25	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