

X4 Frequency Multiplier

RKK-4-23+

50Ω Output 1280 to 2000 MHz



CASE STYLE: CK1246

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	20dBm
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

INPUT	2
OUTPUT	10
GROUND	1,3,4,5,6,7,8,9,11,12,13,14,15,16

Features

- broadband
- high rejection F1, 27 dBc typ; F2, 34 dBc typ; F3, 38 dBc typ; F5, 30 dBc typ.
- aqueous washable

Applications

- synthesizers
- local oscillators
- satellite up and down converters

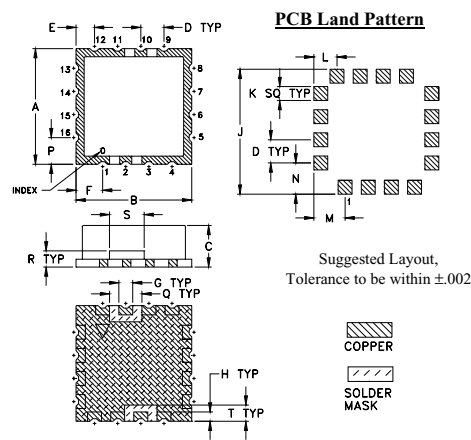
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)							
	F1 Input	F4 Output	Min.	Max.	Typ.	Max.	F1 Typ.	F2 Typ.	F3 Typ.	F5 Typ.				
4	320-500	1280-2000	11	15	24.5	30	27	21	34	20	38	23	30	24

* Harmonics of input frequency below the power level of F4, at RF in +11dBm

Outline Drawing

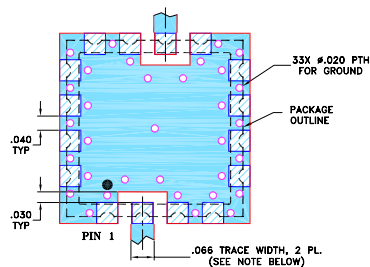


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52

L	M	N	P	Q	R	S	T	wt.
.100	.135	.135	.115	.140	.070	.150	.070	grams
2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

Demo Board MCL P/N: TB-435+ Suggested PCB Layout (PL-267)



- 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

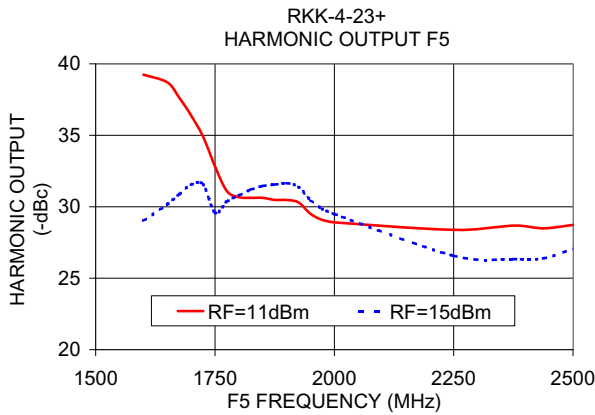
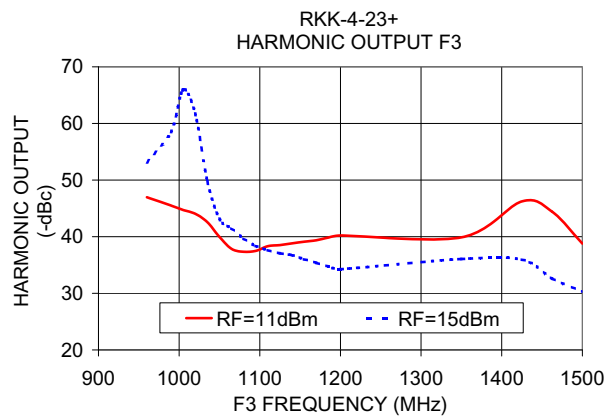
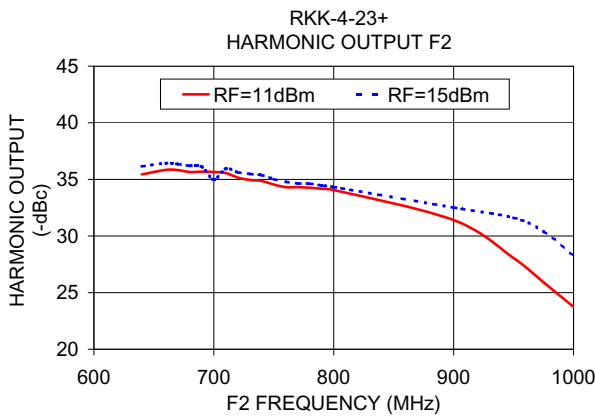
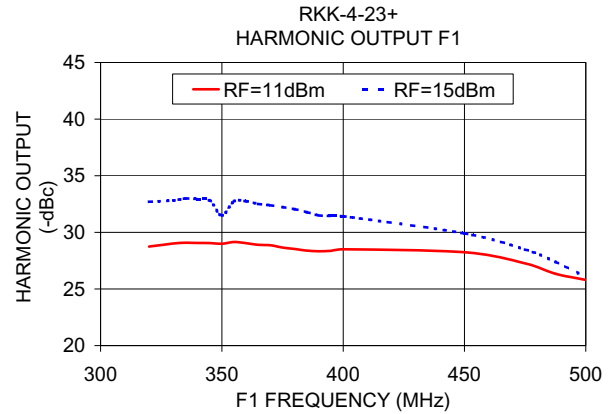
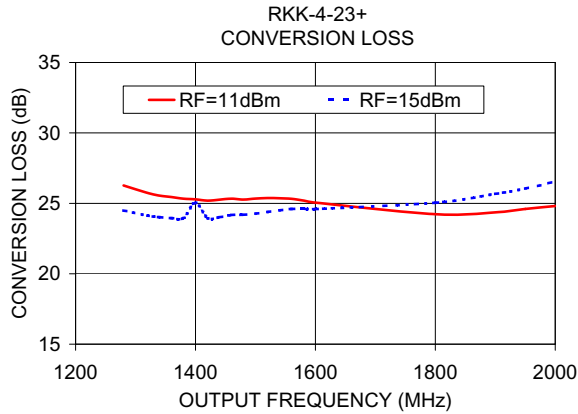
Notes

- A. 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.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document 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

Typical Performance Data

Input Frequency (MHz)	INPUT RF= 11dBm					INPUT RF= 15dBm				
	Conversion Loss (dB) F4	Harmonic Output Below F4 (-dBc) F1	F2	F3	F5	Conversion Loss (dB) F4	Harmonic Output Below F4 (-dBc) F1	F2	F3	F5
320.00	26.27	28.75	35.44	46.96	39.24	24.49	32.70	36.15	53.13	29.02
330.00	25.74	29.02	35.84	45.50	38.71	24.13	32.82	36.44	58.48	30.17
335.00	25.55	29.08	35.82	44.71	37.64	24.02	32.98	36.35	65.96	30.87
340.00	25.45	29.06	35.66	44.05	36.39	23.95	32.94	36.20	61.74	31.54
345.00	25.33	29.05	35.69	42.56	34.90	23.95	32.81	36.13	49.78	31.55
350.00	25.28	29.00	35.66	39.96	32.82	25.04	31.50	34.98	43.15	29.58
355.00	25.19	29.15	35.56	37.85	31.09	23.96	32.74	35.95	41.46	30.36
360.00	25.26	29.04	35.16	37.33	30.67	24.01	32.75	35.63	39.65	30.79
365.00	25.33	28.90	34.95	37.50	30.62	24.17	32.51	35.48	38.36	31.20
370.00	25.27	28.86	34.86	38.33	30.62	24.19	32.39	35.37	37.62	31.45
375.00	25.34	28.66	34.55	38.52	30.48	24.27	32.23	35.03	37.06	31.55
380.00	25.38	28.53	34.31	38.82	30.47	24.38	32.05	34.79	36.74	31.65
385.00	25.36	28.39	34.31	39.11	30.30	24.50	31.78	34.64	36.00	31.39
390.00	25.32	28.33	34.27	39.37	29.51	24.60	31.50	34.62	35.39	30.46
395.00	25.20	28.37	34.17	39.84	29.08	24.61	31.45	34.47	34.75	29.84
400.00	25.05	28.50	34.06	40.22	28.91	24.59	31.42	34.32	34.27	29.48
450.00	24.23	28.24	31.41	39.88	28.38	25.04	29.90	32.51	36.06	26.57
475.00	24.36	27.26	28.05	46.24	28.68	25.67	28.48	31.61	35.95	26.34
487.50	24.60	26.34	25.91	44.43	28.49	26.04	27.39	30.40	32.60	26.39
500.00	24.81	25.80	23.75	38.79	28.73	26.54	26.04	28.27	30.25	27.07





Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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

