

# X2 Frequency Multiplier

50Ω Output 2 to 1000 MHz

AK-2+



CASE STYLE: A03  
PRICE: \$25.20 ea. QTY (1-9)

+ 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	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Input Power	200mW

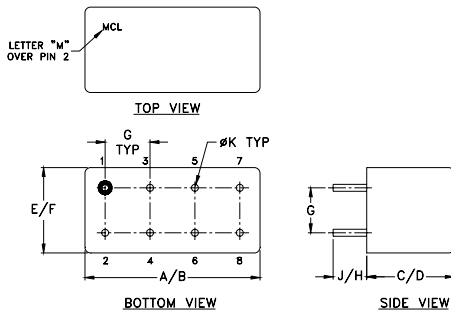
Permanent damage may occur if any of these limits are exceeded.

## Pin Connections

INPUT	1,3,4 <sup>^</sup>
OUTPUT	8
GROUND	2,5,6,7
CASE GROUND	2,5,6,7

<sup>^</sup> pins must be connected together externally

## Outline Drawing



## Outline Dimensions (Inch/mm)

A	B	C	D	E	F
.480	.500	.390	.405	.210	.230
12.19	12.70	9.91	10.29	5.33	5.84
G	H	J	K	wt	
.100	.20	.14	.020	grams	
2.54	5.08	3.56	0.51	2.3	

## Features

- wideband, 2 to 1000 MHz
- low conversion loss, 13.5 dB typ.
- hermetic case

## Applications

- synthesizers
- local oscillators
- military, hi-rel applications

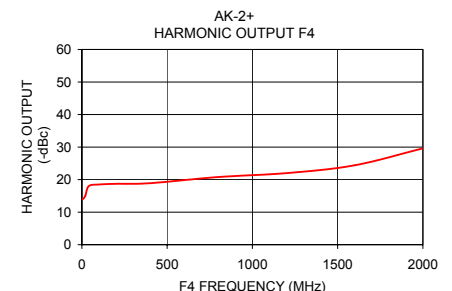
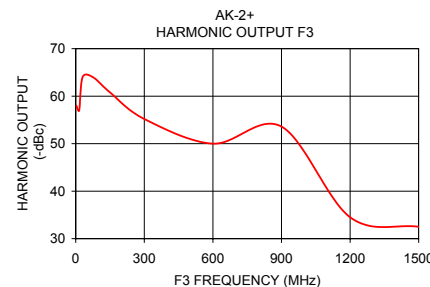
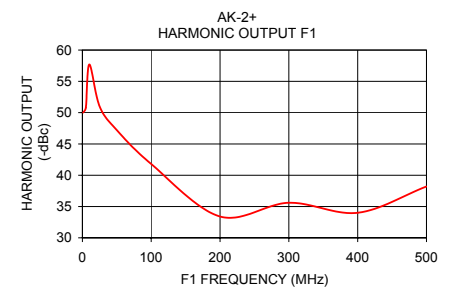
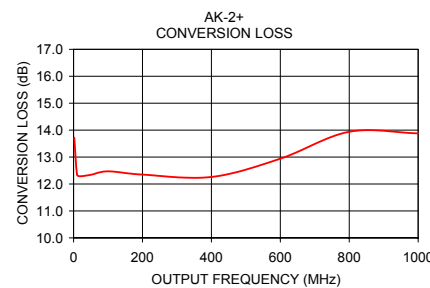
## Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1	F2					F1		F3		F4	
	Input	Output	Min.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
2	1-100	2-200	1	10	13.0	15.0	40	30	50	40	16	12
	100-300	200-600	1	10	13.5	15.5	25	20	40	30	16	12
	300-500	600-1000	1	10	14.0	17.5	20	15	30	25	16	12

\* Harmonics of input frequency below the power level of F2

## Typical Performance Data

Input Frequency (MHz)	Conversion Loss (dB) F2	F1	F3	F4
1.00	13.72	50.00	58.00	13.90
5.00	12.35	50.80	57.00	15.00
10.00	12.29	57.70	64.00	18.00
25.00	12.34	51.00	64.00	18.50
50.00	12.47	47.20	60.80	18.70
100.00	12.35	41.80	55.20	18.90
200.00	12.26	33.40	50.00	20.80
300.00	12.94	35.60	53.60	22.00
400.00	13.94	34.00	34.50	24.40
500.00	13.88	38.20	32.50	29.60



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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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-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).

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