

# X2 Frequency Multiplier

50Ω Output 7000 to 10000 MHz

ZX90-2-50+



## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Input Power, 25°C	23 dBm

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

## Coaxial Connections

INPUT	2
OUTPUT	1

## Features

- broadband
- low conversion loss, 12.5 dB typ.
- rugged construction
- protected by US Patent 6,790,049

## Applications

- synthesizers
- local oscillators

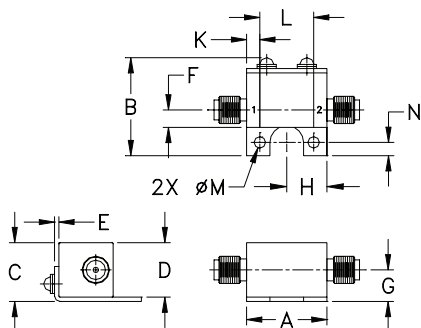
CASE STYLE: JA1242

Connectors	Model	Price	Qty.
SMA	ZX90-2-50-S+	\$41.95 ea.	(1-9)

+RoHS Compliant

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

## Outline Drawing



## Outline Dimensions (inch)

A	B	C	D	E	F	G
.74	.90	.54	.50	.04	.16	.29
18.80	22.86	13.72	12.70	1.02	4.06	7.37
H	J	K	L	M	N	wt
.37	--	.122	.496	.106	.122	grams
9.40	--	3.10	12.60	2.69	3.10	19.0

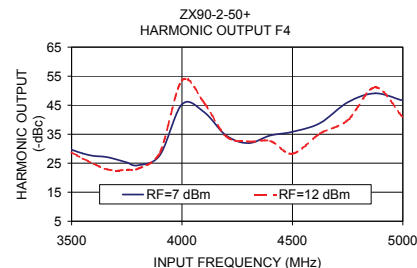
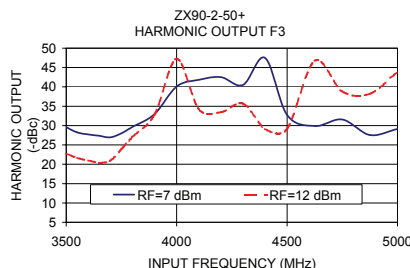
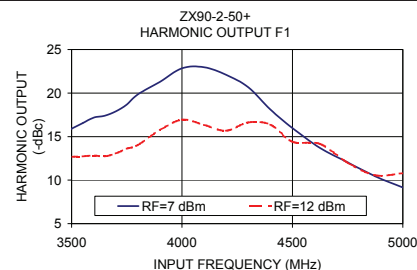
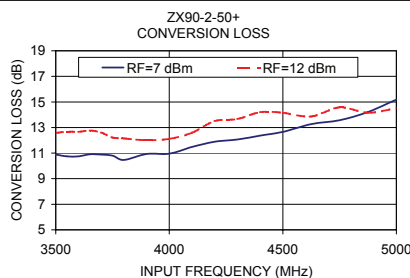
## Electrical Specifications

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	3500-5000	7000-10000	7	12	12.5	17	15	7	28	17	30	17
	3800-4500	7600-9000	7	12	11.3	15.5	20	10	30	20	30	17

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

## Typical Performance Data

INPUT RF= 7 dBm					INPUT RF= 12 dBm			
Input Frequency (MHz)	Conversion Loss (dB)	Harmonic Output Below F2 (-dBc)			Conversion Loss (dB)	Harmonic Output Below F2 (-dBc)		
		F1	F3	F4		F1	F3	F4
3500.00	10.88	15.91	29.63	29.65	12.57	12.68	22.80	28.70
3550.00	10.74	16.55	28.23	28.38	12.68	12.73	21.63	26.66
3600.00	10.74	17.17	27.72	27.50	12.66	12.83	21.00	24.82
3650.00	10.91	17.40	27.35	27.23	12.76	12.73	20.42	23.12
3700.00	10.88	17.90	26.94	26.38	12.61	13.05	20.94	22.45
3750.00	10.80	18.67	28.00	25.28	12.22	13.61	23.93	22.83
3800.00	10.46	19.85	29.66	24.28	12.15	14.03	27.08	23.05
3900.00	10.93	21.28	32.96	27.76	12.01	15.74	32.82	28.60
4000.00	10.95	22.84	40.10	45.29	12.11	16.94	47.23	53.48
4100.00	11.48	22.96	41.83	42.62	12.59	16.34	34.29	45.83
4200.00	11.89	22.10	42.54	34.58	13.50	15.67	33.45	34.29
4300.00	12.07	20.67	40.52	31.92	13.66	16.63	35.68	32.49
4400.00	12.37	18.11	47.47	34.58	14.20	16.38	29.12	32.64
4500.00	12.66	15.97	32.75	35.82	14.16	14.40	29.17	28.29
4625.00	13.27	13.69	29.87	38.82	13.86	14.15	46.73	35.22
4750.00	13.57	12.04	31.57	46.00	14.58	12.00	38.82	39.76
4875.00	14.21	10.43	27.56	49.09	14.15	10.56	38.22	51.13
5000.00	15.18	9.16	29.15	46.56	14.51	10.78	43.85	40.76



## 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](http://www.minicircuits.com/MCLStore/terms.jsp)



www.minicircuits.com P.O. Box 35166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. OR  
M112042  
ZX90-2-50+  
ED-12886/1  
DY/AM  
071004