

X2 Frequency Multiplier

50Ω Output 20 to 1000 MHz

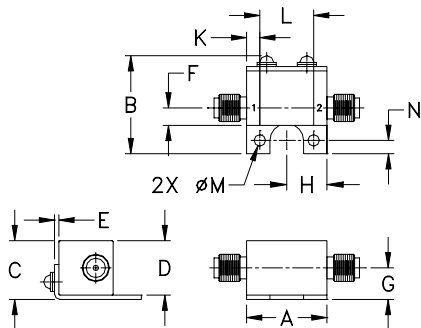
Maximum Ratings

Operating Temperature	-40°C to 85°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	1
OUTPUT	2

Outline Drawing



Outline Dimensions (inch/mm)

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

Features

- broadband
- low conversion loss, 11 dB typ.
- rugged construction
- protected by US Patent 6,790,049

Applications

- synthesizers
- local oscillators

ZX90-2-13-S+



CASE STYLE: JA1242

Connectors	Model
SMA	ZX90-2-13-S+

+RoHS Compliant

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

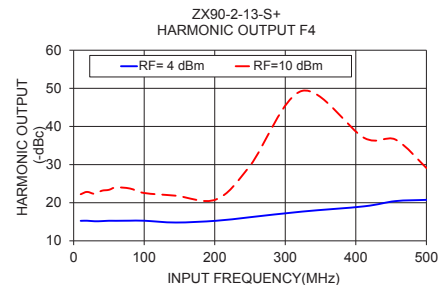
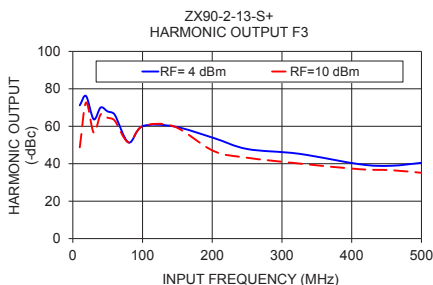
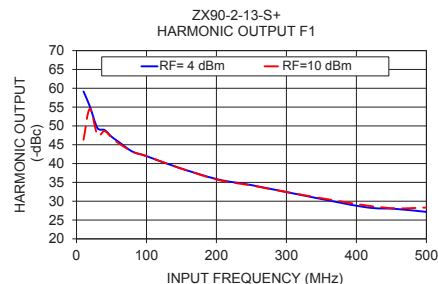
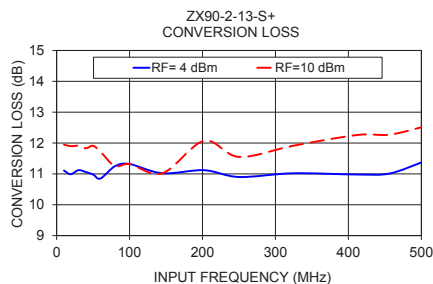
Electrical Specifications

MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1	F2	Min.	Max.	Typ.	Max.	F1		F3		F4	
	Input	Output					Typ.	Min.	Typ.	Min.	Typ.	Min.
2	10-500	20-1000	4	10	11.0	14.5	45	21	45	25	21	12

* Harmonics of input frequency below the power level of F2

Typical Performance Data

Input Frequency (MHz)	INPUT RF=4dBm					INPUT RF=10 dBm				
	Conversion Loss (dB)	Harmonic Output Below F2 (-dBc)				Conversion Loss (dB)	Harmonic Output Below F2 (-dBc)			
		F1	F3	F4			F1	F3	F4	
10.00	11.11	59.15	71.19	15.25		11.95	46.31	48.75	22.22	
19.00	10.99	55.21	76.15	15.28		11.90	54.53	72.71	22.84	
30.00	11.12	49.42	63.71	15.14		11.91	47.59	56.55	22.33	
40.00	11.06	48.92	70.05	15.18		11.83	48.64	66.36	23.15	
50.00	10.98	47.15	67.89	15.27		11.91	46.95	64.56	23.38	
60.00	10.85	45.80	66.24	15.26		11.72	45.41	63.06	24.02	
80.00	11.25	43.16	51.34	15.29		11.25	43.16	51.34	23.72	
100.00	11.32	41.98	60.02	15.28		11.32	41.98	60.02	22.55	
145.00	11.02	38.96	59.93	14.81		11.02	38.96	59.93	21.84	
202.00	11.12	35.80	53.75	15.27		12.07	35.68	46.78	20.87	
250.00	10.90	34.28	47.86	16.20		11.55	34.18	43.20	29.69	
324.00	11.02	31.54	45.33	17.68		11.91	31.64	40.13	49.34	
412.00	10.98	28.44	39.69	19.06		12.26	28.93	37.04	36.98	
456.00	11.01	27.96	38.89	20.42		12.27	28.12	36.56	36.58	
500.00	11.37	27.17	40.48	20.75		12.51	28.32	35.15	29.11	



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



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