

X3 Frequency Multiplier

50Ω Output 3000 to 4500 MHz

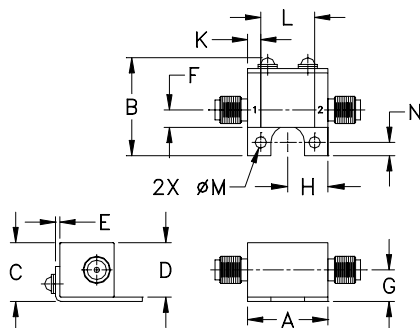
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Input Power	20 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, 14.7 dB typ.
- high rejection F2, and F4, 55 dBc typ.
- rugged construction
- protected by US Patent 6,790,049

Applications

- synthesizers
- local oscillators
- satellite up and down converters

Electrical Specifications

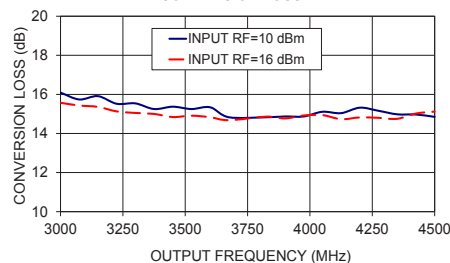
MULTIPLICATION FACTOR	FREQUENCY (MHz)		INPUT POWER (dBm)		CONVERSION LOSS (dB)		*HARMONIC OUTPUT (dBc)					
	F1 Input	F3 Output	Min.	Max.	Typ.	Max.	F1 Typ.	F1 Min.	F2 Typ.	F2 Min.	F4 Typ.	F4 Min.
3	1000-1500	3000-4500	10	16	14.7	18	40	30	55	40	55	38

* Harmonics of input frequency below the power level of F3

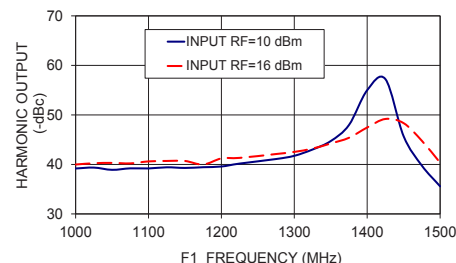
Typical Performance Data

INPUT RF= 10 dBm					INPUT RF= 16 dBm			
Input Frequency (MHz)	Conversion Loss F3 (dB)	Harmonic Output Below F3 (-dBc)			Conversion Loss F3 (dB)	Harmonic Output Below F3 (-dBc)		
		F1	F2	F4		F1	F2	F4
1000.00	16.09	39.18	71.08	54.75	15.57	39.98	62.79	49.36
1025.00	15.74	39.36	63.74	54.58	15.43	40.24	60.28	48.18
1050.00	15.91	38.91	61.07	54.12	15.36	40.31	54.49	43.90
1075.00	15.52	39.21	56.95	43.52	15.13	40.21	61.52	76.34
1100.00	15.54	39.19	60.08	61.88	15.05	40.61	59.92	60.50
1125.00	15.25	39.42	57.98	57.14	15.00	40.70	57.79	57.04
1150.00	15.37	39.29	56.69	56.62	14.84	40.70	56.02	55.62
1175.00	15.25	39.44	55.21	56.51	14.91	39.98	54.67	56.48
1200.00	15.34	39.58	54.32	56.21	14.83	41.21	53.48	56.88
1225.00	14.83	40.17	53.25	56.33	14.68	41.32	52.55	56.09
1275.00	14.83	41.09	52.64	54.19	14.86	42.10	51.32	58.97
1300.00	14.87	41.74	52.70	53.70	14.77	42.53	50.80	60.50
1325.00	14.87	43.01	52.48	53.61	14.92	43.20	50.72	62.07
1350.00	15.11	44.72	53.42	53.10	14.94	44.23	50.64	62.45
1375.00	15.04	47.96	53.88	53.98	14.73	45.38	49.94	64.00
1400.00	15.32	54.99	53.67	54.67	14.82	47.46	49.50	68.05
1425.00	15.16	57.22	54.08	54.80	14.80	49.18	49.21	69.05
1450.00	14.98	45.68	55.39	54.67	14.75	48.33	48.48	71.09
1475.00	14.97	39.76	56.52	54.08	15.02	44.77	48.34	66.99
1500.00	14.85	35.58	57.67	54.23	15.12	40.35	48.41	63.78

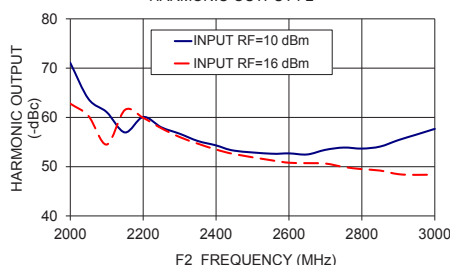
ZX90-3-452-S+
CONVERSION LOSS



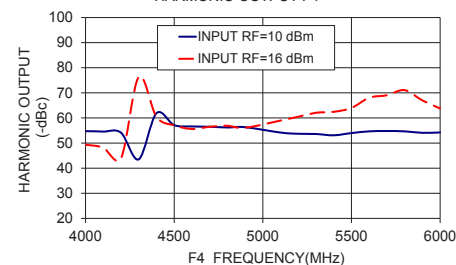
ZX90-3-452-S+
HARMONIC OUTPUT F1



ZX90-3-452-S+
HARMONIC OUTPUT F2



ZX90-3-452-S+
HARMONIC OUTPUT F4



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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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ZX90-3-452-S+



CASE STYLE: JA1242

Connectors Model
SMA ZX90-3-452-S+

+RoHS Compliant

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

REV. B
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