

# Voltage Controlled Oscillator

## ZX95-5200C+

Frequency Doubling 5194 to 5200 MHz

### Features

- Frequency based on multiplication of carrier frequency
- Low phase noise
- Low pushing
- Low pulling
- Protected by US patent 6,790,049

### Applications

- R&D
- LAB
- Instrumentation
- Wireless communications
- Industrial communications



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-5200C-S+	\$ 54.95 ea.	(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.*

### Electrical Specifications

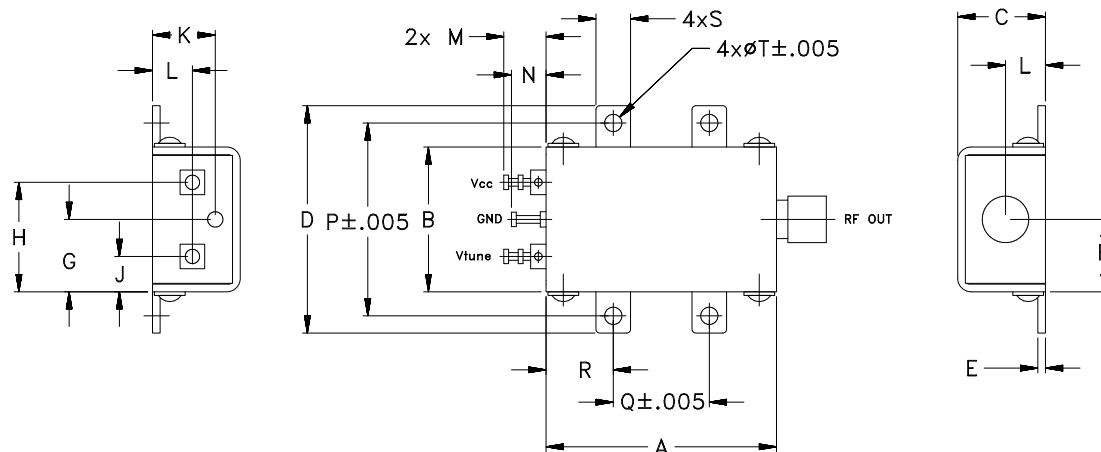
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)			PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	F 2X(1/2F)			Typ.				VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	Max.		F0.5	F1.5	F2			Typ.	Typ.	Vcc (volts)	Current (mA)
	Min.	Max.		1	10	100	1000															
ZX95-5200C+	5194	5200	+3.5	-73	-103	-124	-145	0.25	4.75	90	13	130	-90	-15	-15	-15	1	3	5	35		

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

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

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	WT.
1.20	.75	.46	1.18	.04	.38	.45	.57	.18	.33	.21	.22	.18	1.00	.50	.35	.18	.106	GRAM
30.48	19.05	11.68	29.97	1.02	9.65	11.43	14.48	4.57	8.38	5.33	5.59	4.57	25.40	12.70	8.89	4.57	2.69	35.0



For detailed performance specs & shopping online see web site

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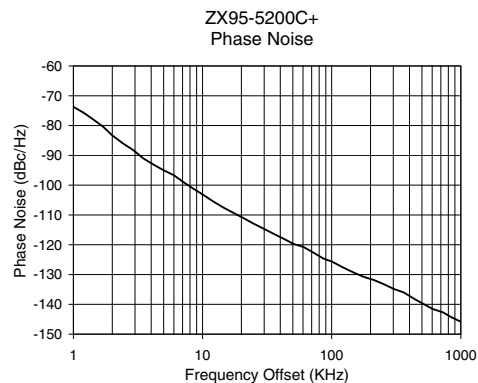
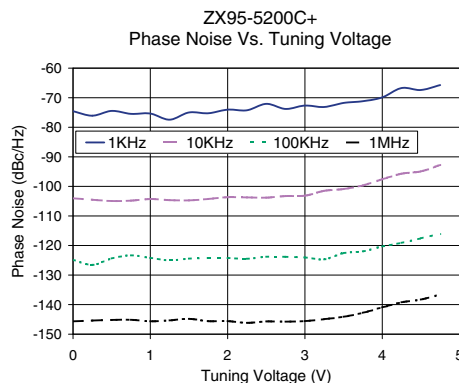
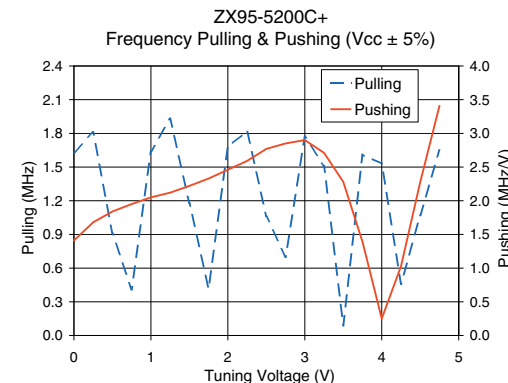
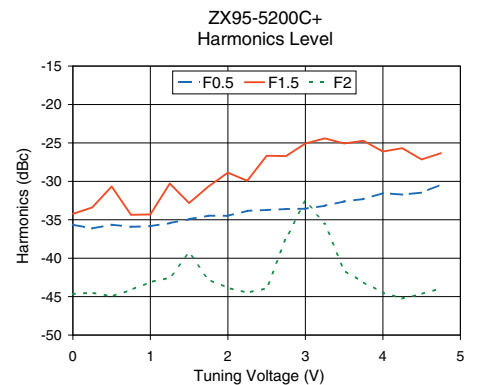
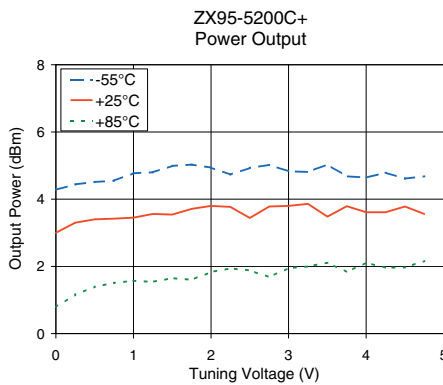
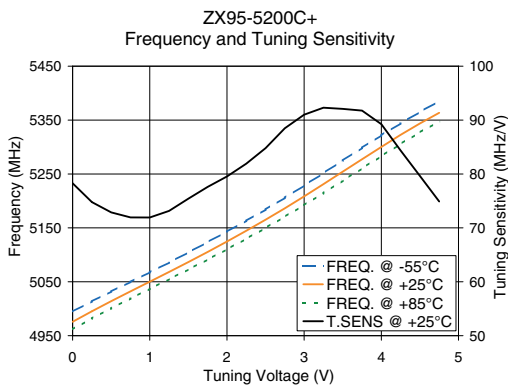
**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-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).

# Performance Data & Curves\*

# ZX95-5200C+

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 5197 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F0.5	F1.5	F2			1kHz	10kHz	100kHz	1MHz		
0.00	78.27	4994.8	4975.8	4961.8	4.28	3.00	0.79	18.58	-35.6	-34.2	-44.7	1.41	1.63	-74.6	-104.0	-124.9	-145.7	1.0	-73.70
0.25	74.78	5013.7	4995.3	4982.0	4.44	3.30	1.16	18.71	-36.1	-33.4	-44.5	1.68	1.81	-76.1	-104.5	-126.6	-145.4	2.0	-83.30
0.50	72.87	5031.9	5014.0	5000.8	4.51	3.40	1.39	18.80	-35.6	-30.7	-45.0	1.84	0.91	-74.5	-104.9	-124.4	-145.2	3.5	-91.12
0.75	71.94	5049.9	5032.3	5019.0	4.55	3.42	1.51	18.91	-35.9	-34.4	-44.1	1.95	0.41	-75.5	-104.8	-123.3	-145.1	6.0	-96.67
1.00	71.93	5067.7	5050.2	5036.9	4.77	3.45	1.57	19.00	-35.8	-34.3	-43.1	2.05	1.64	-75.4	-104.3	-124.2	-145.6	8.5	-101.21
1.25	73.15	5085.8	5068.2	5054.8	4.80	3.56	1.54	19.10	-35.4	-30.3	-42.5	2.12	1.93	-77.4	-104.7	-125.0	-145.4	10.0	-103.10
1.50	75.42	5104.5	5086.5	5072.8	4.99	3.54	1.65	19.18	-34.9	-32.8	-39.3	2.22	1.18	-75.0	-104.7	-124.4	-144.8	20.8	-111.07
1.75	77.61	5123.5	5105.4	5091.2	5.03	3.71	1.60	19.26	-34.5	-30.7	-42.8	2.33	0.42	-75.3	-104.3	-124.2	-145.6	35.5	-116.33
2.00	79.54	5143.1	5124.8	5110.3	4.94	3.80	1.83	19.35	-34.5	-28.9	-43.9	2.46	1.68	-74.0	-103.6	-124.2	-145.6	60.7	-120.79
2.25	81.92	5163.1	5144.7	5129.8	4.73	3.77	1.94	19.46	-33.8	-29.9	-44.5	2.59	1.82	-74.2	-103.7	-124.5	-146.2	86.7	-124.67
2.50	84.80	5184.1	5165.1	5150.0	4.93	3.44	1.88	19.55	-33.7	-26.7	-43.9	2.77	1.06	-72.1	-103.8	-123.8	-145.7	100.0	-125.59
2.75	88.48	5205.9	5186.3	5170.7	5.02	3.78	1.68	19.66	-33.6	-26.7	-37.4	2.85	0.70	-73.8	-103.3	-123.8	-145.8	148.1	-129.31
3.00	91.00	5228.7	5208.5	5192.2	4.83	3.80	1.95	19.75	-33.6	-25.1	-32.6	2.90	1.77	-72.7	-103.1	-124.1	-145.6	177.0	-130.75
3.25	92.29	5251.6	5231.2	5214.6	4.81	3.86	2.00	19.85	-33.2	-24.4	-35.5	2.71	1.51	-73.1	-101.5	-124.7	-144.9	211.6	-131.80
3.50	92.08	5274.9	5254.3	5237.5	5.03	3.48	2.11	19.97	-32.6	-25.1	-41.6	2.28	0.09	-71.8	-100.9	-122.6	-144.1	302.4	-134.82
3.75	91.76	5298.6	5277.3	5260.5	4.68	3.79	1.83	20.09	-32.3	-24.7	-43.1	1.39	1.61	-71.2	-99.7	-122.0	-142.8	361.5	-136.01
4.00	89.24	5321.9	5300.2	5282.2	4.64	3.61	2.11	20.17	-31.5	-26.1	-44.5	0.25	1.53	-69.9	-97.6	-120.3	-140.9	507.5	-139.74
4.25	84.37	5344.0	5322.6	5305.7	4.79	3.61	1.96	20.28	-31.7	-25.7	-45.2	1.03	0.46	-66.7	-95.7	-119.1	-139.2	606.7	-141.56
4.50	79.65	5365.2	5343.6	5327.3	4.61	3.78	1.97	20.41	-31.5	-27.2	-44.7	2.28	1.07	-67.4	-94.9	-117.6	-138.3	851.6	-144.38
4.75	74.90	5385.2	5363.6	5347.5	4.68	3.56	2.16	20.46	-30.4	-26.3	-43.9	3.41	1.65	-65.7	-92.7	-116.1	-136.6	1000.0	-145.83

\*at 25°C unless mentioned otherwise



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