

Coaxial

# Voltage Controlled Oscillator

## ZX95-3320C+

5V Tuning for PLL IC's 3220 to 3320 MHz

### Features

- Linear tuning characteristics
- Low phase noise
- Low pulling
- Low pushing
- Protected by US patent 6,790,049

### Applications

- R&D
- LAB
- Instrumentation
- Wireless communications
- WiMAX 3.3-3.8 GHz



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-3320C-S+	\$44.95 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

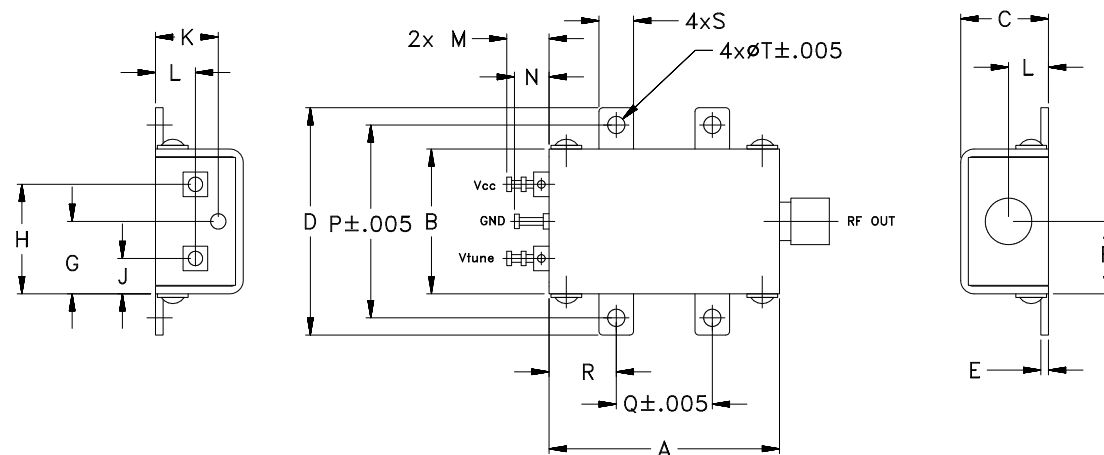
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Max.			Typ.	Max.
ZX95-3320C+	3220	3320	+4.5	-76	-105	-127	-147	0.5	4.5	50 - 58	44	120	-90	-14	-	2	0.8	5	45

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7.0V
Absolute Max. Tuning Voltage (Vtune)	6.5V
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

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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)

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

**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).

REV. OR  
M115794  
EDR-8902F2  
ZX95-3320C+  
RAV  
090903  
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# Performance Data & Curves\*

# ZX95-3320C+

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 3270 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	56.75	3167.1	3154.2	3146.0	4.82	4.76	4.41	37.53	-16.7	-20.7	-38.2	1.90	1.06	-77.8	-104.4	-127.5	-146.7	1.0	-76.67
0.25	52.07	3180.7	3168.4	3160.4	4.81	4.72	4.37	37.49	-16.1	-21.0	-37.8	1.47	2.32	-76.5	-105.2	-127.6	-146.5	2.0	-85.59
0.50	49.72	3193.5	3181.4	3173.5	4.80	4.70	4.36	37.46	-15.6	-21.2	-37.0	1.27	2.80	-75.4	-105.5	-128.2	-147.0	3.5	-92.48
0.75	49.09	3206.0	3193.8	3185.9	4.81	4.69	4.35	37.43	-15.2	-21.4	-36.5	1.16	2.50	-76.6	-105.0	-127.2	-145.6	6.0	-99.16
1.00	49.23	3218.3	3206.1	3198.0	4.79	4.70	4.36	37.38	-15.2	-21.9	-35.7	1.09	1.58	-76.3	-104.8	-127.4	-146.5	8.5	-103.09
1.25	49.06	3230.6	3218.4	3210.1	4.77	4.69	4.36	37.36	-15.1	-22.0	-35.2	1.01	0.19	-76.3	-105.3	-127.7	-146.9	10.0	-104.68
1.50	49.81	3242.9	3230.7	3222.3	4.75	4.66	4.34	37.33	-14.7	-22.8	-34.6	0.95	1.28	-77.6	-104.9	-127.5	-146.8	20.8	-112.47
1.75	50.88	3255.5	3243.1	3234.6	4.71	4.64	4.33	37.30	-14.4	-22.7	-33.9	0.89	2.38	-77.9	-105.0	-127.4	-147.3	35.5	-117.76
2.00	52.33	3268.4	3255.8	3247.1	4.69	4.59	4.29	37.27	-14.4	-23.3	-33.9	0.84	2.86	-76.1	-105.1	-127.0	-146.6	60.7	-122.45
2.25	53.72	3281.6	3268.9	3260.0	4.66	4.55	4.25	37.25	-14.2	-23.5	-33.5	0.79	2.50	-75.2	-104.5	-127.5	-146.3	86.7	-126.05
2.50	54.75	3295.1	3282.3	3273.2	4.65	4.51	4.20	37.23	-13.8	-24.1	-33.3	0.75	1.33	-74.7	-105.0	-127.7	-146.3	100.0	-127.25
2.75	56.33	3308.9	3296.0	3286.8	4.64	4.49	4.17	37.20	-13.8	-23.9	-33.6	0.75	0.37	-75.8	-104.7	-127.1	-147.4	148.1	-130.73
3.00	58.01	3323.2	3310.1	3300.7	4.64	4.47	4.15	37.18	-13.7	-24.6	-34.3	0.79	1.95	-75.2	-104.4	-127.0	-146.5	211.6	-133.80
3.25	58.65	3337.8	3324.6	3315.0	4.59	4.46	4.12	37.17	-13.4	-24.2	-34.8	0.91	2.86	-76.0	-104.4	-127.0	-146.5	302.4	-136.40
3.50	58.24	3352.3	3339.3	3329.6	4.56	4.38	4.08	37.16	-13.3	-24.8	-35.2	1.13	2.57	-75.5	-104.5	-127.5	-147.4	361.5	-138.17
3.75	56.88	3366.6	3353.8	3344.3	4.55	4.35	4.01	37.15	-13.1	-25.0	-35.9	1.42	1.10	-77.6	-104.6	-127.6	-146.6	507.5	-141.33
4.00	55.65	3380.7	3368.1	3358.7	4.55	4.32	3.96	37.14	-13.1	-25.5	-37.0	1.79	0.88	-75.3	-104.5	-127.2	-146.9	606.7	-142.90
4.25	52.82	3394.2	3382.0	3372.7	4.52	4.31	3.94	37.13	-12.9	-25.8	-38.2	2.16	2.37	-74.3	-105.1	-128.2	-147.7	851.6	-146.05
4.50	49.98	3407.2	3395.2	3386.2	4.52	4.27	3.91	37.12	-12.9	-25.9	-39.3	2.53	2.84	-74.3	-104.8	-128.1	-146.8	1000.0	-147.13

\*at 25°C unless mentioned otherwise

