

Coaxial

# Voltage Controlled Oscillator

## ZX95-2390A+

5V Tuning for PLL IC's 2380 to 2420 MHz

### Features

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



CASE STYLE: GB956

### Applications

- R&D
- LAB
- Instrumentation
- Wireless communications
- Cellular infrastructure

Connectors	Model	Price	Qty.
SMA	ZX95-2390A-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

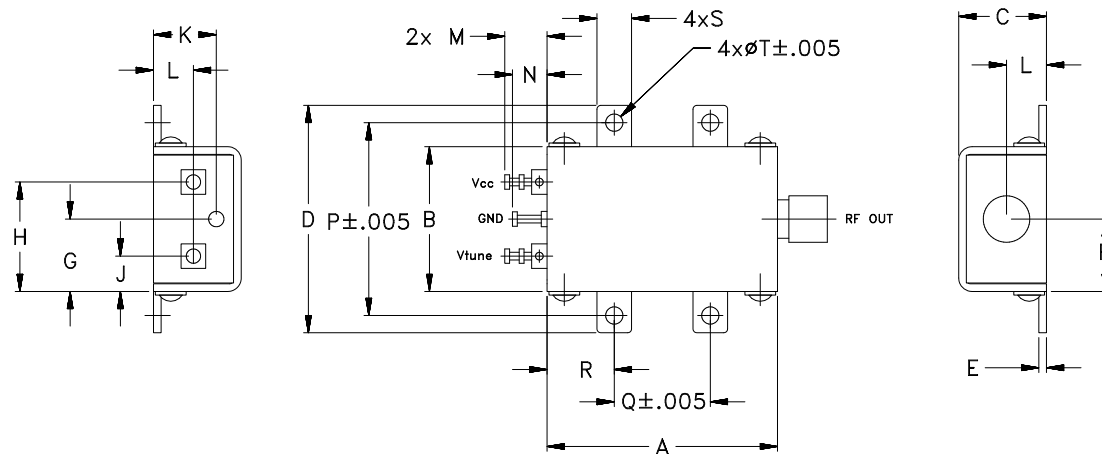
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Max.	Typ.
ZX95-2390A+	2380	2420	+0.7	-80	-106	-127	-147	0.5	4.5	31-35	45	50	-90	-20	-10	0.5	0.8	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)	6V
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

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)

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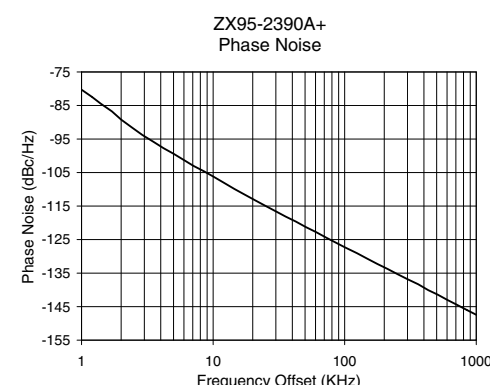
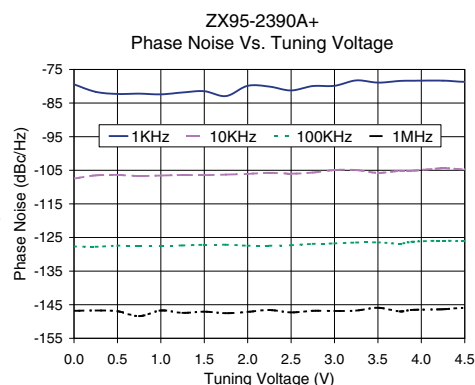
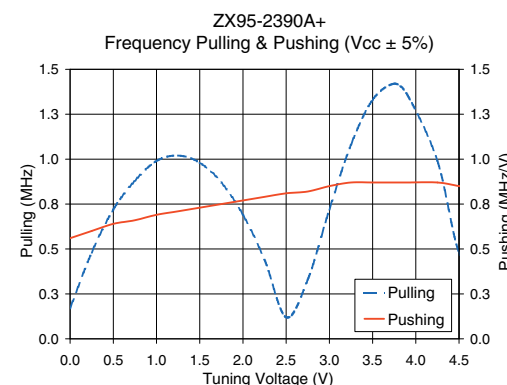
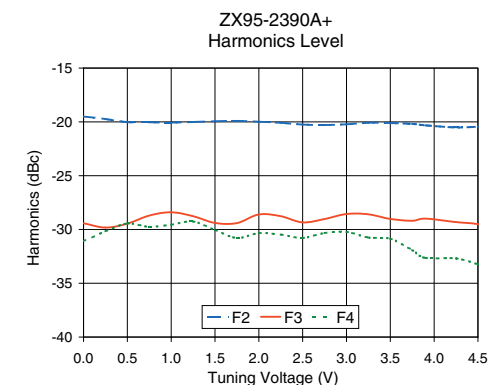
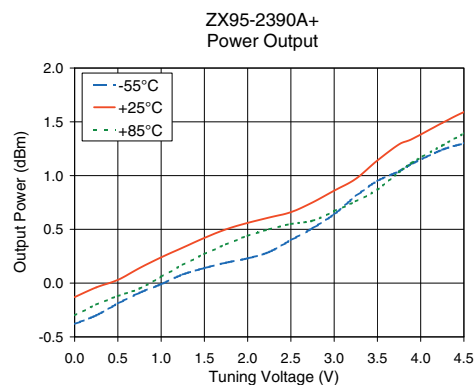
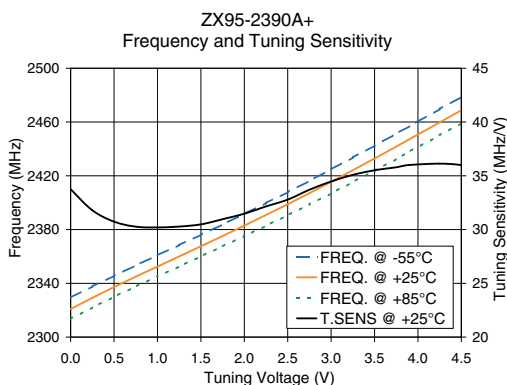
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EDR-8595/1F2  
ZX95-2390A+  
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Page 1 of 2

# Performance Data & Curves\*

# ZX95-2390A+

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 2398 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	33.75	2329.4	2320.8	2313.5	-0.38	-0.13	-0.30	25.76	-19.5	-29.4	-31.1	0.56	0.17	-79.4	-107.5	-127.7	-146.8	1.0	-80.28
0.25	31.79	2337.7	2329.3	2322.0	-0.30	-0.04	-0.20	25.80	-19.7	-29.8	-30.2	0.60	0.48	-81.7	-106.5	-127.8	-146.7	2.0	-89.22
0.50	30.73	2345.6	2337.2	2330.0	-0.19	0.03	-0.12	25.83	-20.0	-29.5	-29.5	0.64	0.72	-82.3	-106.4	-127.5	-146.9	3.5	-95.77
0.75	30.27	2353.2	2344.9	2337.6	-0.09	0.14	-0.05	25.87	-20.0	-28.7	-29.8	0.66	0.88	-82.2	-106.7	-127.4	-148.4	6.0	-101.28
1.00	30.20	2360.9	2352.5	2345.1	-0.01	0.24	0.06	25.90	-20.1	-28.4	-29.6	0.69	0.99	-82.4	-106.6	-127.4	-146.7	8.5	-104.60
1.25	30.28	2368.5	2360.0	2352.6	0.08	0.33	0.17	25.94	-20.0	-28.8	-29.3	0.71	1.02	-81.9	-106.4	-127.4	-147.4	10.0	-106.16
1.50	30.48	2376.1	2367.6	2360.0	0.14	0.42	0.27	25.98	-19.9	-29.4	-30.1	0.73	0.98	-81.5	-106.5	-127.2	-147.1	20.8	-113.25
1.75	30.96	2383.8	2375.2	2367.5	0.19	0.50	0.36	26.01	-19.9	-29.4	-30.8	0.75	0.87	-82.9	-106.3	-127.2	-147.5	35.5	-118.12
2.00	31.48	2391.7	2383.0	2375.1	0.23	0.56	0.44	26.05	-20.0	-28.6	-30.3	0.77	0.69	-79.9	-106.1	-127.5	-147.2	60.7	-122.79
2.25	32.15	2399.7	2390.8	2382.8	0.29	0.61	0.50	26.08	-20.1	-28.8	-30.5	0.79	0.44	-80.1	-105.8	-127.5	-146.6	86.7	-126.03
2.50	32.79	2407.8	2398.9	2390.7	0.40	0.66	0.55	26.10	-20.3	-29.3	-30.8	0.81	0.12	-81.2	-106.0	-127.3	-147.3	100.0	-127.28
2.75	33.70	2416.2	2407.1	2398.7	0.51	0.75	0.58	26.13	-20.3	-29.0	-30.3	0.82	0.33	-79.9	-105.7	-126.9	-146.8	148.1	-130.68
3.00	34.47	2424.8	2415.5	2406.9	0.64	0.86	0.67	26.16	-20.2	-28.6	-30.2	0.85	0.72	-79.9	-104.9	-126.8	-146.9	211.6	-133.76
3.25	35.09	2433.5	2424.1	2415.3	0.81	0.97	0.76	26.19	-20.1	-28.6	-30.8	0.87	1.08	-78.3	-104.9	-126.5	-146.8	302.4	-136.88
3.50	35.52	2442.4	2432.9	2423.9	0.95	1.14	0.87	26.23	-20.1	-29.0	-30.9	0.87	1.33	-78.9	-105.8	-126.5	-145.9	361.5	-138.33
3.75	35.79	2451.4	2441.8	2432.6	1.04	1.29	1.03	26.26	-20.2	-29.2	-31.9	0.87	1.42	-78.4	-105.2	-126.8	-147.0	507.5	-141.40
3.90	36.00	2456.8	2447.1	2437.9	1.11	1.34	1.12	26.28	-20.3	-29.0	-32.7	0.87	1.36	-78.4	-105.2	-126.3	-146.6	606.7	-143.06
4.25	36.13	2469.6	2459.7	2450.2	1.24	1.49	1.28	26.33	-20.5	-29.3	-32.7	0.87	0.99	-78.3	-104.4	-126.0	-146.4	851.6	-146.03
4.50	36.00	2478.8	2468.8	2459.1	1.30	1.59	1.39	26.36	-20.5	-29.5	-33.2	0.85	0.48	-78.7	-104.7	-126.1	-145.9	1000.0	-147.43

\*at 25°C unless mentioned otherwise



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