

Coaxial

# Voltage Controlled Oscillator

## ZX95-3970+

5V Tuning for PLL IC's 3790 to 3970 MHz

### Features

- linear tuning characteristics
- low phase noise
- low pushing & pulling
- protected by US patent 6,790,049

### Applications

- r & d
- lab
- instrumentation
- wireless communication
- point-to-point radio
- satellite systems



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-3970-S+	\$44.95 ea.	(1-9)

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

### Electrical Specifications

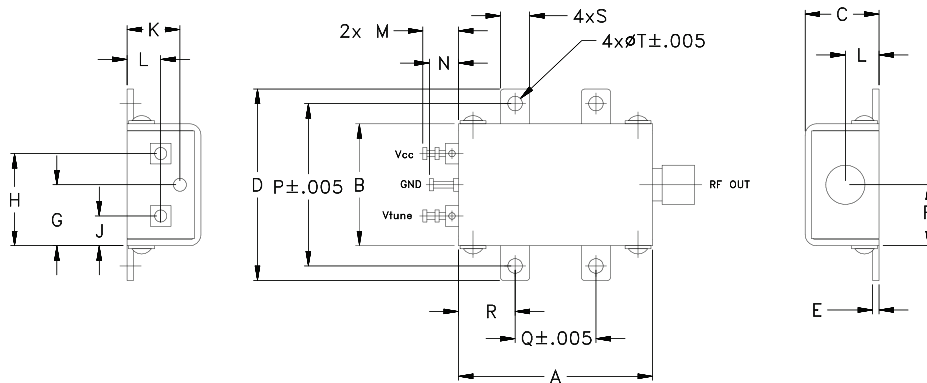
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, KHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.
ZX95-3970+	3790	3970	+3.5	-71	-96	-117	-137	0.5	5	77-85	10	30	-90	-23	-15	1.5	4	5	31

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	6V
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	.38	.57	.18	.33	.21	.22	.18	1.00	.50	.35	.18	.106	grams
30.48	19.05	11.68	29.97	1.02	9.65	9.65	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).

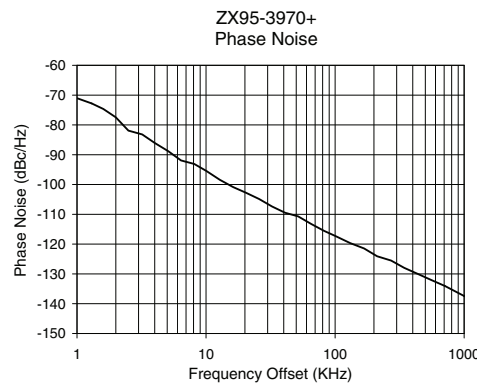
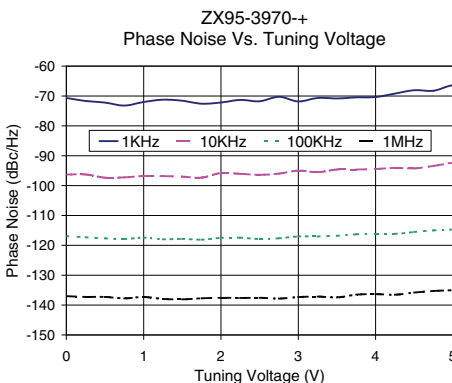
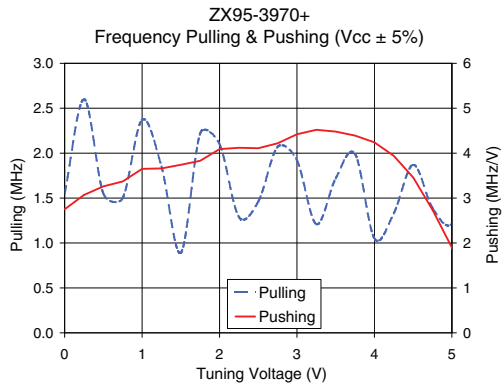
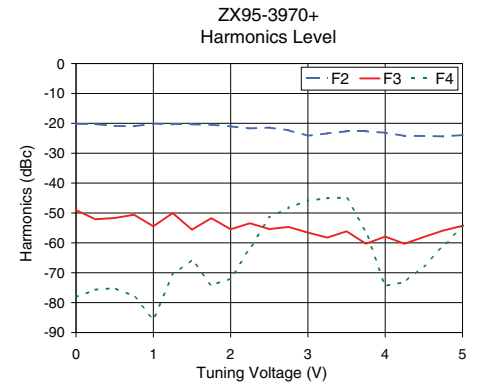
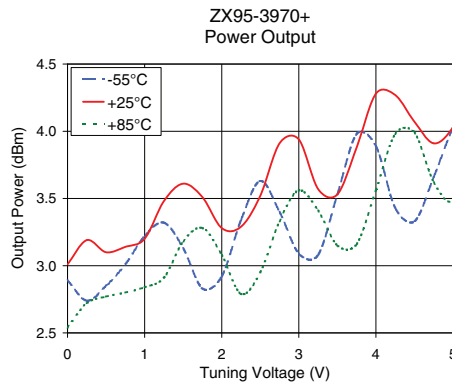
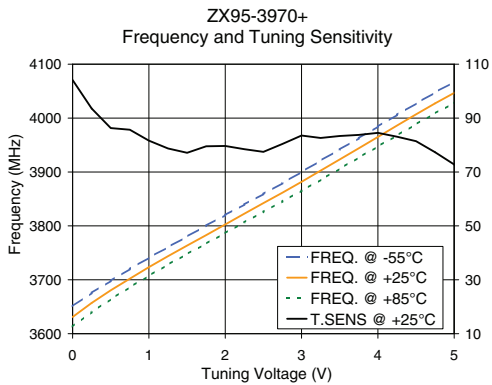
REV. OR  
M108616  
EDR-7418/2MP  
ZX95-3970+  
RAV  
120906  
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# Performance Data & Curves\*

# ZX95-3970+

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 3880 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	104.11	3650.9	3631.1	3613.3	2.89	3.01	2.54	24.93	-20.2	-49.0	-78.2	2.75	1.55	-70.7	-96.3	-116.9	-137.0	1.0	-71.04
0.50	86.29	3698.1	3680.5	3664.0	2.85	3.10	2.77	25.03	-20.9	-51.7	-75.1	3.26	1.55	-72.2	-97.4	-117.7	-137.3	2.0	-77.45
0.75	85.68	3720.1	3702.1	3686.2	3.01	3.14	2.80	25.07	-21.0	-50.6	-77.8	3.37	1.50	-73.2	-97.3	-117.9	-137.8	4.0	-86.06
1.00	81.63	3740.9	3723.5	3707.5	3.22	3.20	2.84	25.11	-20.1	-54.5	-85.6	3.65	2.37	-72.0	-96.8	-117.4	-137.3	6.4	-91.93
1.25	78.73	3760.6	3743.9	3728.2	3.32	3.48	2.91	25.17	-20.3	-50.0	-70.7	3.66	1.85	-71.2	-96.8	-118.0	-138.0	8.1	-93.09
1.50	77.14	3780.3	3763.6	3747.8	3.13	3.61	3.18	25.22	-20.4	-55.6	-65.6	3.74	0.89	-71.6	-97.0	-117.8	-138.1	10.0	-95.38
1.75	79.53	3800.4	3782.9	3767.2	2.83	3.51	3.28	25.26	-20.5	-51.7	-74.2	3.83	2.22	-72.6	-97.3	-118.1	-137.7	20.4	-102.78
2.00	79.67	3820.2	3802.7	3786.8	2.92	3.28	3.08	25.28	-21.0	-55.5	-72.0	4.09	2.10	-72.2	-95.8	-117.5	-137.5	41.0	-109.47
2.25	78.47	3839.7	3822.7	3806.6	3.34	3.29	2.79	25.34	-21.7	-53.4	-61.8	4.12	1.29	-71.3	-96.1	-117.5	-137.6	65.2	-113.22
2.50	77.47	3859.3	3842.3	3826.1	3.63	3.52	2.95	25.41	-21.4	-55.4	-51.5	4.11	1.46	-71.8	-96.4	-117.9	-137.6	82.2	-115.56
2.75	80.41	3879.4	3861.6	3845.6	3.40	3.91	3.33	25.45	-22.3	-54.7	-48.2	4.22	2.07	-70.3	-96.0	-117.6	-137.8	100.0	-117.23
3.00	83.52	3900.0	3881.7	3865.2	3.09	3.94	3.56	25.48	-24.2	-56.6	-45.9	4.42	1.92	-71.8	-95.0	-117.0	-137.3	130.7	-119.64
3.25	82.63	3921.1	3902.6	3885.3	3.08	3.57	3.41	25.54	-23.4	-58.2	-45.0	4.52	1.21	-70.7	-95.5	-117.0	-137.1	167.8	-121.45
3.50	83.35	3941.7	3923.3	3906.1	3.53	3.53	3.15	25.62	-22.7	-56.1	-44.9	4.48	1.72	-70.8	-94.6	-116.8	-137.4	211.6	-124.07
3.75	83.77	3962.8	3944.1	3926.9	3.98	3.88	3.16	25.68	-22.7	-60.3	-56.2	4.39	1.99	-70.5	-94.6	-116.3	-136.5	271.7	-125.52
4.00	84.53	3984.4	3965.1	3947.4	3.89	4.28	3.56	25.73	-23.2	-57.9	-74.4	4.24	1.05	-70.4	-94.4	-116.1	-136.3	342.7	-127.97
4.25	83.09	4006.0	3986.2	3967.8	3.43	4.27	3.98	25.79	-24.2	-60.3	-73.1	3.94	1.33	-69.2	-94.1	-116.1	-136.5	440.0	-130.06
4.50	81.43	4027.1	4007.0	3988.6	3.33	4.07	3.99	25.84	-24.2	-58.0	-67.8	3.46	1.87	-68.1	-94.2	-115.5	-135.8	554.9	-132.01
4.75	77.33	4047.6	4027.3	4008.8	3.66	3.91	3.62	25.92	-24.4	-55.9	-61.1	2.74	1.39	-68.2	-93.4	-115.0	-135.3	712.4	-134.08
5.00	72.79	4067.1	4046.7	4027.9	4.03	4.03	3.47	25.99	-23.9	-54.3	-54.5	1.90	1.21	-66.4	-92.3	-114.7	-135.0	1000.0	-137.42

\*at 25°C unless mentioned otherwise



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