

Coaxial

# Voltage Controlled Oscillator

## ZX95-1790+

Linear Tuning 1640 to 1790 MHz

### Features

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

### Applications

- r & d
- lab
- instrumentation
- wireless communications
- military communication
- radio location
- WiMAX



CASE STYLE: GB956

Connectors	Model
SMA	ZX95-1790-S+

**+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)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.	Max.			Typ.	Typ.
ZX95-1790+	1640	1790	+6.2	-82	-107	-127	-147	0.5	12	19	40	50	-90	-28	-20	3	0.7	5	31	

### Maximum Ratings

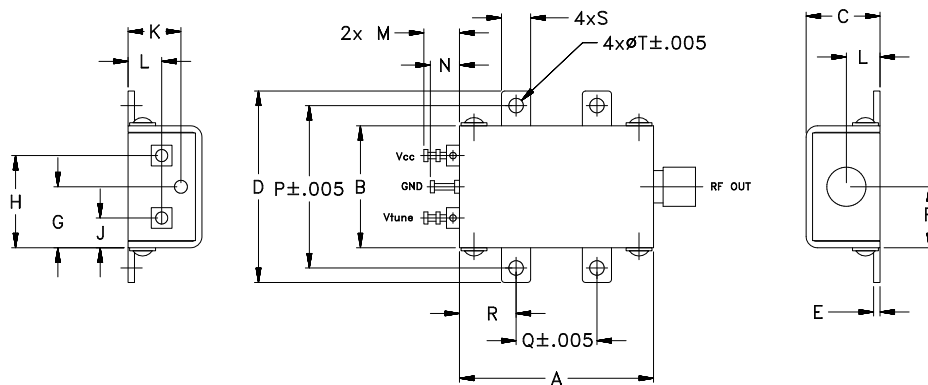
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	14V
All specifications	50 ohm system

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



NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminals. See Application Note [AN-40-10](#).

### 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

#### 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](http://www.minicircuits.com/MCLStore/terms.jsp)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

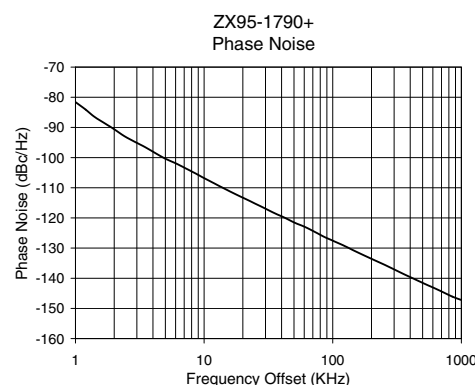
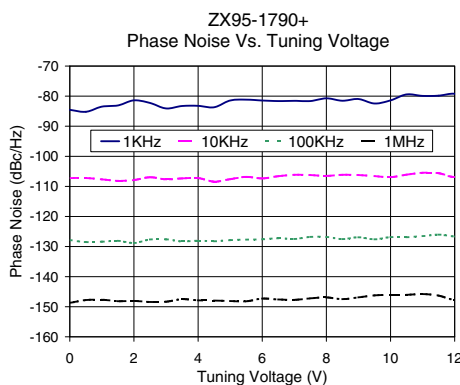
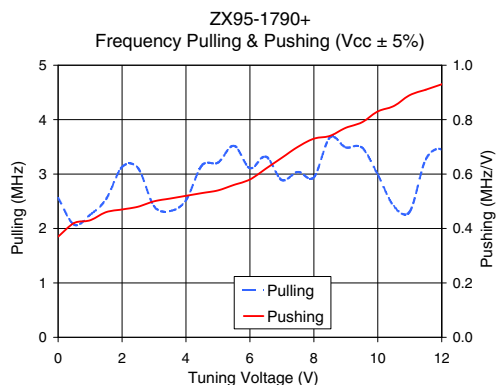
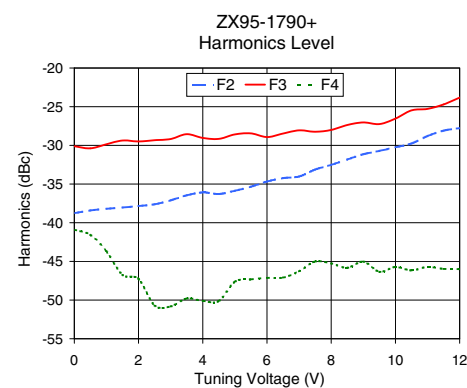
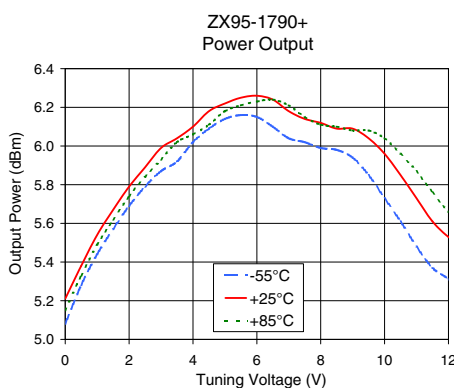
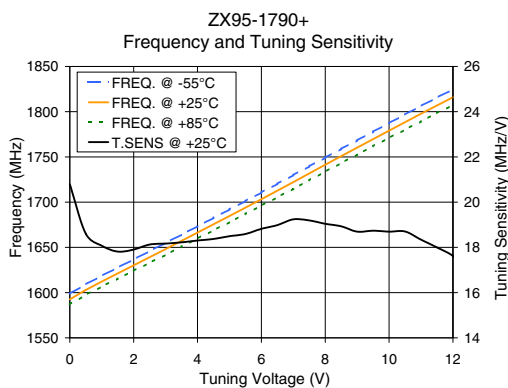
REV. C  
M152326  
EDR-9441F2  
ZX95-1790+  
RAV  
150923  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-1790+

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 1710 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	20.79	1598.8	1592.5	1587.0	5.08	5.21	5.15	23.98	-38.8	-30.1	-40.9	0.37	2.56	-84.6	-107.3	-127.8	-148.7	1.0	-81.60
0.50	18.61	1609.1	1602.9	1597.4	5.28	5.38	5.33	24.03	-38.4	-30.4	-41.6	0.42	2.07	-85.2	-107.2	-128.5	-147.8	2.0	-90.62
1.00	18.07	1618.5	1612.2	1606.7	5.44	5.54	5.49	24.07	-38.2	-29.9	-43.7	0.43	2.25	-83.5	-107.7	-128.4	-147.7	3.5	-96.60
2.00	17.90	1636.7	1630.1	1624.2	5.69	5.79	5.74	24.12	-37.8	-29.5	-47.3	0.47	3.13	-81.4	-107.9	-128.8	-148.1	6.0	-101.86
2.50	18.13	1645.8	1639.1	1633.0	5.79	5.89	5.84	24.14	-37.6	-29.3	-50.7	0.48	3.11	-82.3	-107.0	-127.7	-148.4	8.5	-105.15
3.00	18.17	1655.0	1648.2	1641.8	5.87	5.99	5.93	24.17	-37.1	-29.2	-50.8	0.50	2.41	-84.1	-107.7	-127.6	-148.4	10.0	-106.78
3.50	18.22	1664.2	1657.2	1650.8	5.92	6.04	6.02	24.20	-36.5	-28.6	-49.8	0.51	2.32	-83.3	-107.3	-128.3	-147.5	20.8	-113.64
4.00	18.30	1673.4	1666.3	1659.8	6.02	6.10	6.06	24.22	-36.1	-29.0	-50.1	0.52	2.52	-83.2	-107.2	-128.0	-147.9	35.5	-118.46
5.00	18.49	1691.9	1684.7	1677.9	6.14	6.22	6.18	24.27	-35.9	-28.6	-47.6	0.54	3.21	-81.5	-107.6	-127.9	-148.1	60.7	-122.98
6.00	18.82	1710.7	1703.2	1696.1	6.15	6.26	6.23	24.29	-34.7	-28.9	-47.1	0.58	3.11	-81.4	-107.4	-127.6	-147.3	86.7	-126.36
6.50	18.98	1720.2	1712.6	1705.4	6.10	6.24	6.24	24.30	-34.2	-28.5	-47.1	0.62	3.32	-81.6	-106.6	-127.2	-147.6	100.0	-127.54
7.00	19.24	1729.9	1722.1	1714.7	6.04	6.18	6.21	24.31	-34.0	-28.1	-46.3	0.66	2.89	-81.6	-106.2	-127.5	-147.7	148.1	-130.95
7.50	19.19	1739.6	1731.7	1724.1	6.02	6.14	6.15	24.33	-33.1	-28.2	-45.0	0.70	3.04	-81.6	-106.2	-126.8	-147.2	177.0	-132.51
8.00	19.04	1749.2	1741.3	1733.7	5.99	6.12	6.11	24.38	-32.5	-28.0	-45.3	0.73	2.94	-80.7	-106.5	-126.8	-146.9	211.6	-134.02
9.00	18.69	1768.3	1760.3	1752.6	5.94	6.09	6.08	24.48	-31.1	-27.0	-45.0	0.77	3.49	-81.0	-106.2	-126.9	-146.9	302.4	-137.13
9.50	18.74	1777.8	1769.7	1761.9	5.85	6.04	6.08	24.52	-30.7	-27.3	-46.4	0.79	3.49	-82.5	-106.6	-127.6	-146.2	361.5	-138.73
10.00	18.70	1787.3	1779.0	1771.0	5.73	5.96	6.04	24.57	-30.3	-26.5	-45.7	0.83	2.99	-81.4	-106.9	-126.9	-146.1	507.5	-141.66
10.50	18.70	1796.9	1788.4	1780.2	5.61	5.85	5.96	24.61	-29.8	-25.5	-46.2	0.85	2.41	-79.4	-106.1	-126.9	-146.1	606.7	-143.15
11.00	18.34	1806.3	1797.7	1789.3	5.48	5.73	5.87	24.68	-28.8	-25.3	-45.7	0.89	2.31	-79.9	-105.5	-126.5	-145.8	851.6	-146.10
12.00	17.62	1824.7	1815.9	1807.3	5.31	5.53	5.66	24.85	-27.8	-23.8	-46.0	0.93	3.45	-79.2	-106.9	-126.7	-147.7	1000.0	-147.20

\*at 25°C unless mentioned otherwise



### Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. 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](http://www.minicircuits.com/MCLStore/terms.jsp)

