

Voltage Controlled Oscillator

ZX95-1900+

Linear Tuning 1600 to 1900 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
- point-to-point system



CASE STYLE: GB956

Connectors	Model
SMA	ZX95-1900-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.
ZX95-1900+	1600	1900	0	-78	-104	-125	-145	1	12	34	40	60	-90	-19	-10	1	0.3	8	35

Maximum Ratings

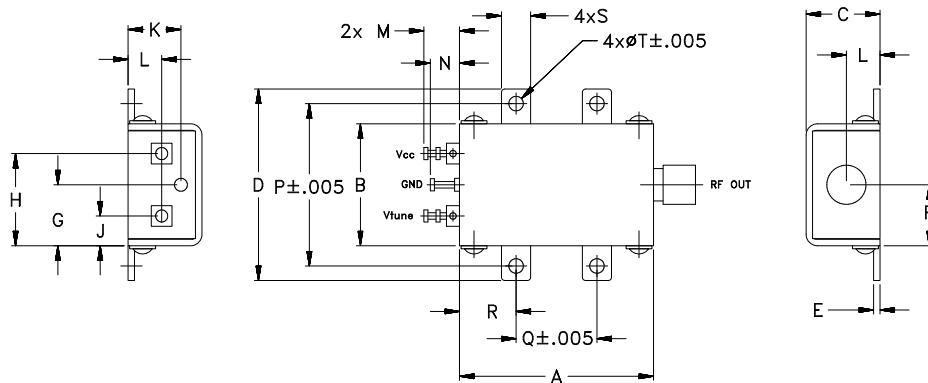
Operating Temperature -55°C to 85°C
 Storage Temperature -55°C to 100°C
 Absolute Max. Supply Voltage (Vcc) 8.5V
 Absolute Max. Tuning Voltage (Vtune) 14.0V
 All specifications 50 ohm system

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

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- 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

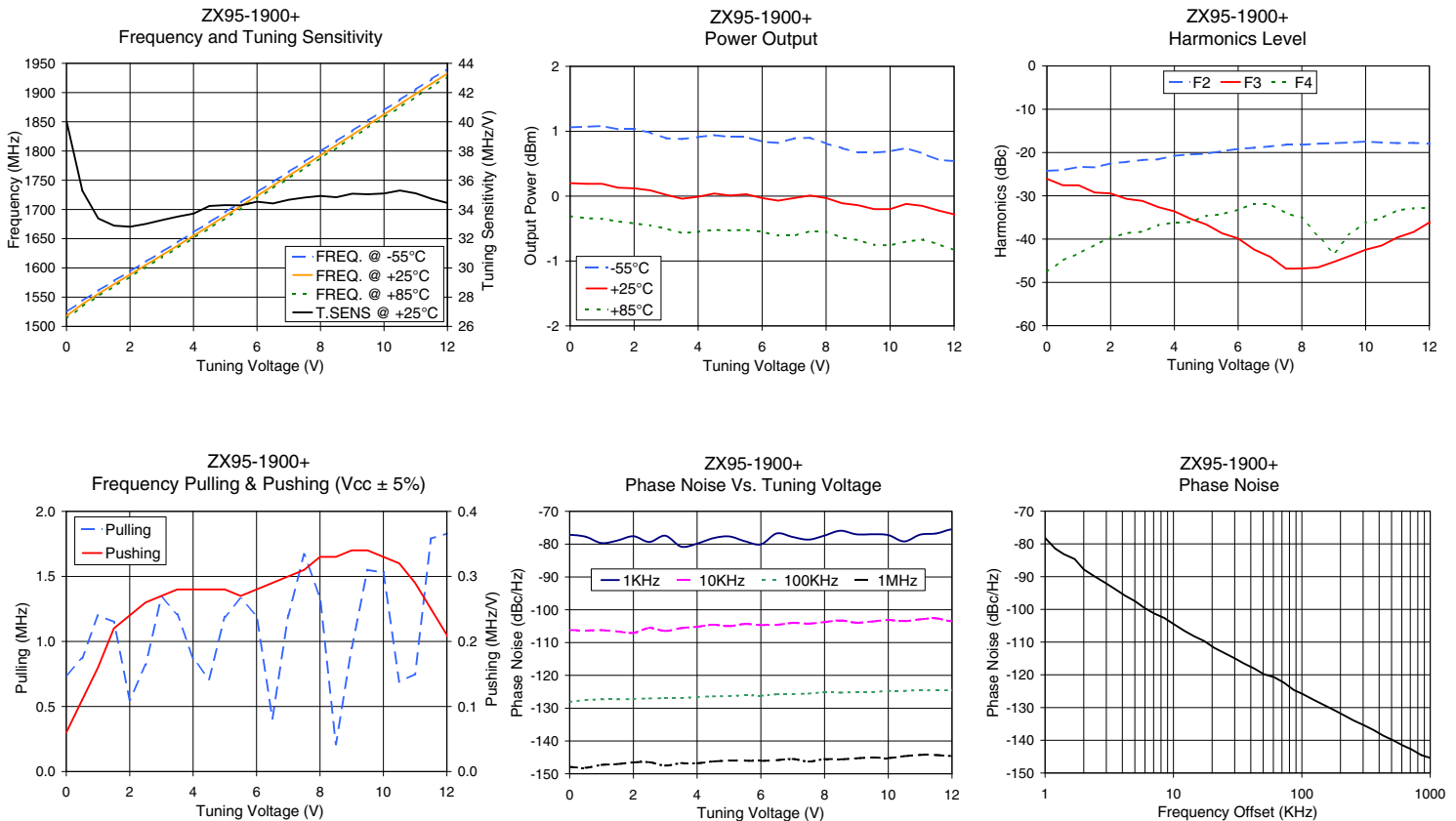


Performance Data & Curves*

ZX95-1900+

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 1750 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	40.05	1524.5	1517.9	1513.3	1.06	0.20	-0.31	21.07	-24.2	-26.1	-47.6	0.06	0.74	-77.1	-106.2	-128.1	-147.9	1.0	-78.18
0.50	35.28	1543.8	1538.0	1534.0	1.07	0.19	-0.34	21.08	-24.1	-27.6	-44.9	0.11	0.87	-77.7	-106.2	-127.5	-148.2	2.0	-87.79
1.00	33.39	1561.1	1555.6	1551.8	1.08	0.19	-0.35	21.09	-23.3	-27.6	-43.3	0.16	1.20	-79.7	-106.2	-127.3	-147.3	3.5	-93.79
1.50	32.89	1577.8	1572.3	1568.5	1.03	0.13	-0.39	21.09	-23.4	-29.2	-41.4	0.22	1.15	-78.9	-106.6	-127.3	-147.0	6.0	-99.68
2.00	32.82	1594.2	1588.7	1585.0	1.03	0.12	-0.42	21.10	-22.5	-29.5	-39.7	0.24	0.55	-77.6	-107.0	-127.2	-146.5	8.5	-102.66
3.00	33.27	1627.3	1621.7	1617.8	0.89	0.02	-0.50	21.12	-21.7	-31.2	-38.3	0.27	1.34	-77.4	-106.5	-126.9	-147.5	10.0	-104.45
4.00	33.71	1660.9	1655.1	1651.1	0.91	-0.01	-0.55	21.14	-20.8	-33.6	-36.2	0.28	0.87	-79.9	-105.2	-126.6	-146.8	20.8	-111.76
5.00	34.30	1695.2	1689.0	1684.9	0.91	0.01	-0.53	21.16	-20.3	-36.6	-34.6	0.28	1.19	-77.6	-105.0	-126.3	-146.0	35.5	-116.56
6.00	34.54	1729.7	1723.3	1719.1	0.84	-0.03	-0.55	21.18	-19.2	-39.9	-33.2	0.28	1.20	-80.1	-104.7	-126.2	-146.1	60.7	-120.71
6.50	34.41	1747.0	1740.6	1736.3	0.82	-0.07	-0.61	21.19	-18.9	-42.4	-31.9	0.29	0.41	-76.7	-104.6	-125.8	-145.9	86.7	-124.65
7.00	34.66	1764.4	1757.8	1753.4	0.89	-0.03	-0.61	21.20	-18.6	-44.1	-31.9	0.30	1.20	-77.8	-104.0	-125.7	-145.5	100.0	-125.76
7.50	34.82	1781.8	1775.1	1770.6	0.90	0.01	-0.54	21.20	-18.2	-46.8	-34.0	0.31	1.67	-78.6	-104.2	-125.6	-146.3	148.1	-129.20
8.00	34.92	1799.4	1792.5	1787.9	0.81	-0.03	-0.55	21.21	-18.2	-46.8	-35.1	0.33	1.34	-77.4	-103.8	-125.2	-145.5	177.0	-130.70
9.00	35.08	1834.5	1827.4	1822.7	0.67	-0.14	-0.68	21.22	-17.8	-45.3	-43.4	0.34	0.95	-77.0	-104.0	-125.1	-145.3	211.6	-132.31
9.50	35.04	1852.2	1845.0	1840.1	0.67	-0.20	-0.75	21.23	-17.7	-43.9	-38.9	0.34	1.55	-77.0	-103.6	-125.1	-145.0	302.4	-135.35
10.00	35.09	1869.8	1862.5	1857.5	0.69	-0.20	-0.76	21.23	-17.5	-42.5	-36.2	0.33	1.53	-77.3	-103.1	-124.8	-145.2	361.5	-136.87
10.50	35.30	1887.6	1880.0	1874.9	0.74	-0.12	-0.70	21.23	-17.7	-41.5	-35.2	0.32	0.69	-79.2	-103.5	-124.7	-144.6	507.5	-139.89
11.00	35.10	1905.4	1897.7	1892.5	0.66	-0.15	-0.67	21.23	-17.8	-39.6	-33.3	0.29	0.75	-77.1	-102.9	-124.5	-144.3	606.7	-141.52
11.50	34.73	1923.0	1915.2	1909.9	0.56	-0.22	-0.74	21.23	-17.8	-38.4	-32.9	0.25	1.79	-76.8	-102.6	-124.6	-144.3	851.6	-144.52
12.00	34.44	1940.5	1932.6	1927.2	0.54	-0.28	-0.83	21.23	-18.0	-36.2	-32.8	0.21	1.83	-75.5	-103.5	-124.5	-144.6	1000.0	-145.39

*at 25°C unless mentioned otherwise



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