Coaxial

Voltage Controlled Oscillator

ZX95-1900V-S+

Linear Tuning 1450 to 1900 MHz

Features

- low phase noise, -101 dBc/Hz typ. @ 10kHz offset
- high power output, +9.5 dBm typ.
- low pushing, 0.7 MHz/V typ.
- protected by US patents 6,790,049

Applications

- r & d
- lab
- instrumentation
- test equipment

CASE STYLE: GB956

Connectors	Model
SMA	ZX95-1900V-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 Typ.				TUNING VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
																		Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ZX95-1900V-S+	1450	1900	+9.5	-76	-101	-121	-141	0.5	20	20-33	35	40	-90	-18	-8	8	0.7	5	28

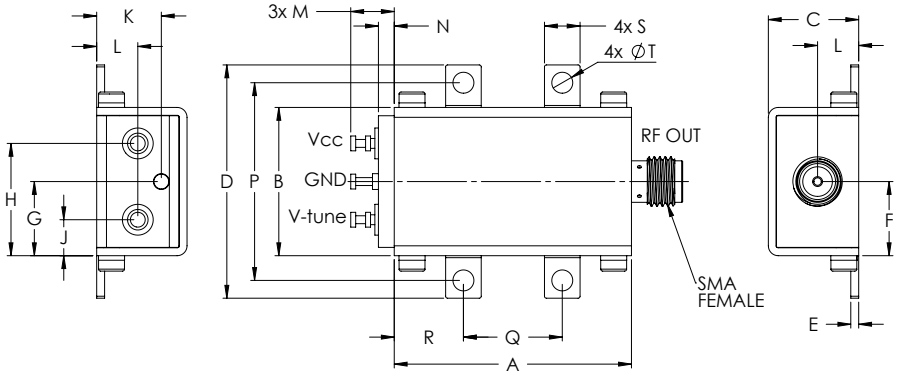
Maximum Ratings

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)	22V
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**	**.08**	**1.00**	**.50**	**.35**	**.18**	**.106**	grams
30.48	19.15	11.61	30.07	1.02	9.53	9.53	14.43	4.62	8.31	5.28	5.59	2.03	25.40	12.70	8.89	4.57	2.69	35.0

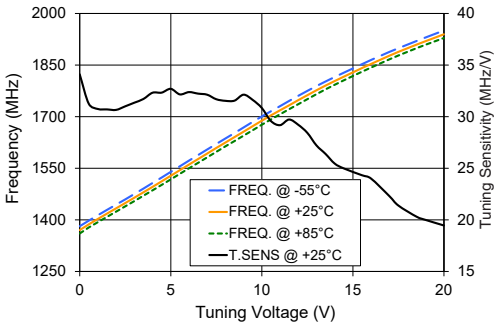
Performance Data & Curves*

ZX95-1900V-S+

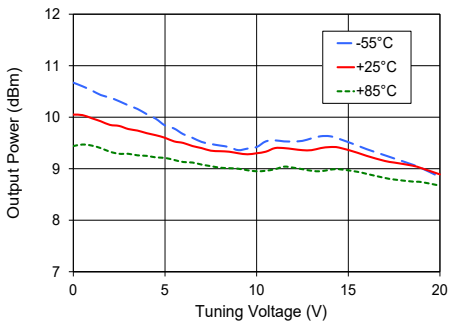
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 1675 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	34.10	1381.4	1370.1	1360.3	10.67	10.05	9.44	22.24	-13.4	-19.0	-24.5	1.09	3.05	-74.6	-101.0	-121.6	-140.6	1.0	-74.8
0.50	31.25	1398.0	1387.2	1377.9	10.60	10.04	9.47	22.21	-13.5	-18.4	-25.5	1.00	6.51	-75.1	-101.0	-121.7	-140.9	2.5	-85.7
1.00	30.74	1413.7	1402.8	1393.5	10.52	9.98	9.45	22.17	-13.6	-18.5	-27.1	0.95	8.65	-76.9	-100.2	-121.5	-140.8	4.2	-91.5
2.50	31.00	1459.6	1448.9	1439.3	10.31	9.83	9.29	22.18	-13.9	-17.9	-26.2	0.77	4.76	-75.5	-100.5	-121.4	-140.7	6.1	-95.2
3.00	31.35	1475.2	1464.4	1454.7	10.23	9.77	9.29	22.20	-14.3	-18.4	-26.1	0.72	8.34	-74.3	-100.4	-121.3	-140.6	8.5	-98.4
4.00	32.32	1507.1	1495.9	1485.9	10.06	9.69	9.25	22.19	-14.4	-18.3	-25.7	0.59	7.62	-75.8	-100.1	-121.1	-140.3	10.0	-100.0
5.00	32.70	1539.7	1528.2	1517.8	9.84	9.60	9.21	22.18	-15.1	-18.4	-27.1	0.36	6.40	-75.9	-100.3	-121.1	-140.5	23.6	-108.1
6.00	32.38	1572.1	1560.6	1550.0	9.67	9.50	9.13	22.18	-16.0	-17.8	-26.4	0.16	9.06	-73.5	-100.1	-121.1	-140.5	39.5	-112.9
7.00	32.13	1604.6	1593.0	1581.9	9.52	9.40	9.08	22.17	-16.2	-17.3	-27.1	0.04	2.38	-75.9	-100.2	-121.3	-140.6	65.2	-117.3
8.00	31.53	1636.6	1624.9	1613.7	9.45	9.34	9.02	22.16	-17.3	-17.3	-27.5	0.11	11.14	-75.8	-100.1	-121.3	-140.5	77.9	-118.8
9.50	31.62	1684.9	1672.5	1660.6	9.39	9.28	8.97	22.10	-17.4	-17.5	-28.3	0.19	6.62	-74.8	-99.9	-121.1	-140.4	100.0	-121.0
10.00	30.84	1700.6	1688.3	1676.5	9.42	9.30	8.95	22.13	-16.8	-18.0	-29.1	0.05	8.85	-75.0	-99.6	-121.0	-140.5	153.5	-124.9
11.00	29.18	1730.5	1718.5	1707.1	9.55	9.40	8.99	22.14	-16.6	-18.3	-28.4	0.24	8.10	-74.8	-99.8	-121.0	-140.6	180.2	-126.2
12.00	29.22	1760.5	1747.9	1736.2	9.53	9.38	9.02	22.03	-16.6	-18.8	-29.0	0.26	4.26	-73.8	-100.2	-121.0	-140.5	215.4	-127.7
13.00	27.22	1788.9	1776.8	1765.3	9.59	9.36	8.96	22.00	-16.2	-19.1	-28.1	0.27	10.89	-74.9	-100.3	-121.7	-141.1	302.4	-130.7
14.00	25.46	1815.1	1803.6	1792.7	9.63	9.42	8.98	21.98	-16.2	-19.8	-28.9	0.18	5.46	-75.4	-101.5	-122.3	-142.0	355.1	-132.1
16.00	24.00	1864.7	1853.4	1842.9	9.38	9.25	8.90	21.83	-19.9	-22.0	-29.1	0.28	9.74	-76.3	-101.9	-123.4	-142.8	498.5	-135.1
17.50	21.39	1899.0	1888.3	1878.0	9.20	9.12	8.79	21.84	-24.5	-23.5	-28.8	0.61	3.72	-75.7	-102.6	-123.9	-143.2	595.9	-136.6
18.50	20.31	1920.0	1909.4	1899.2	9.08	9.06	8.75	21.82	-29.5	-23.8	-29.5	0.79	8.90	-77.1	-102.4	-123.7	-143.3	982.3	-140.9
20.00	19.46	1950.5	1939.5	1928.8	8.84	8.89	8.67	21.74	-34.1	-22.4	-30.3	1.05	10.00	-77.1	-102.1	-123.5	-143.1	1000.0	-141.1

*at 25°C unless mentioned otherwise

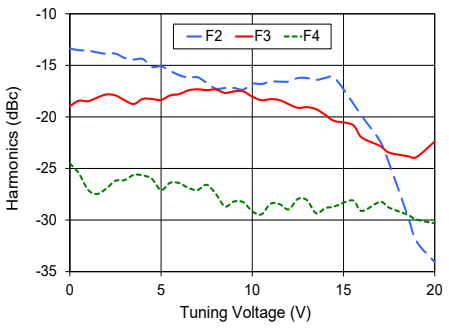
ZX95-1900V-S+
Frequency and Tuning Sensitivity



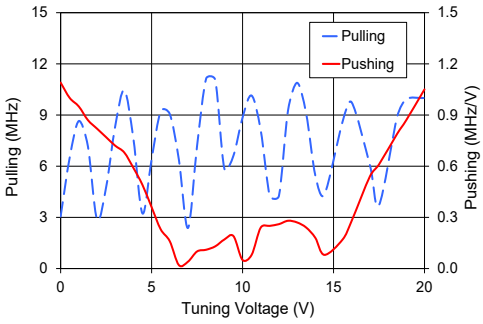
ZX95-1900V-S+
Power Output



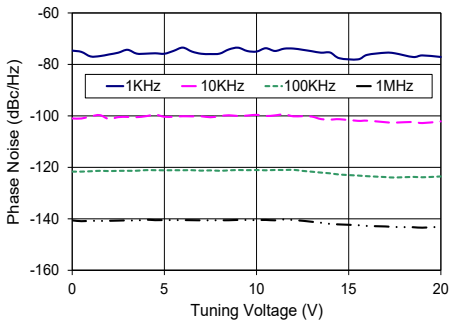
ZX95-1900V-S+
Harmonics Level



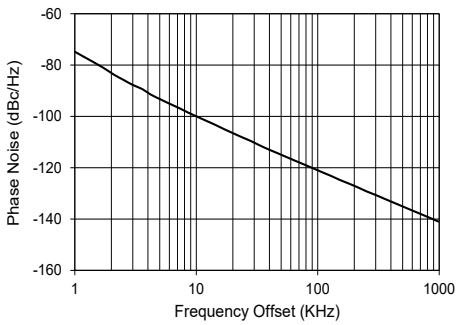
ZX95-1900V-S+
Frequency Pulling & Pushing (Vcc ± 5%)



ZX95-1900V-S+
Phase Noise Vs. Tuning Voltage



ZX95-1900V-S+
Phase Noise



Additional 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.

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