

Voltage Controlled Oscillator

ZX95-1200WR-S+

50Ω 612 to 1200 MHz

The Big Deal:

- Wide Band
- Low Phase Noise
- Linear Tuning Sensitivity
- Robust design and construction
- Rigid unibody construction



CASE STYLE: GB956

Product Overview:

The ZX95-1200WR-S+ is a Voltage Controlled Oscillator, designed to operate from 612 to 1200 MHz for cellular applications. The ZX95-1200WR-S+ is built using Mini-Circuits proven unibody construction (size of 1.20" x .75" x .46") which integrates the RF connectors with the case body to shield against unwanted signals and noise.

Key Features

Feature	Advantages
Wide Band: from 612 to 1200 MHz	The model's wide bandwidth makes it suitable for a wide variety of applications, such as: CATV, military, test equipment etc...
Linear Tuning Sensitivity Ratio: 1.47:1 typ.	Optimal for loop filter design.
Low Phase Noise: -97 dBc/Hz typ at 10 kHz offset	Low phase noise improves system EVM (Error Vector Magnitude).
High Power Output, +9 dBm typ.	Reduces amplification requirements and improves immunity to external noise sources.
Good Pushing, 0.45 MHz/V typ.	Provides increased immunity against noisy DC lines and improves output frequency stability vs. variations in supply voltage.

Coaxial

Voltage Controlled Oscillator

ZX95-1200WR-S+

Wide Band 612 to 1200 MHz

Features

- low phase noise, -97 dBc/Hz typ. @ 10kHz offset
- high power output, +9 dBm typ.
- low pushing, 0.45 MHz/V typ.
- protected by US patent 6,790,049

Applications

- r&d
- wireless communications
- cellular
- test equipment



CASE STYLE: GB956

Connectors Model

SMA ZX95-1200WR-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				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB _r (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
				dBc/Hz SSB at offset frequencies,kHz				VOLTAGE RANGE (V)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	V _{cc} (volts)						Current (mA)	
	Typ.				Min.	Max.	Typ.						Typ.	Typ.	Typ.	Max.	Typ.		Typ.
ZX95-1200WR-S+	612	1200	+9	-71	-97	-119	-139	0.5	18	42 - 62	85	20	-90	-20	-10	9	0.45	12	35

Maximum Ratings

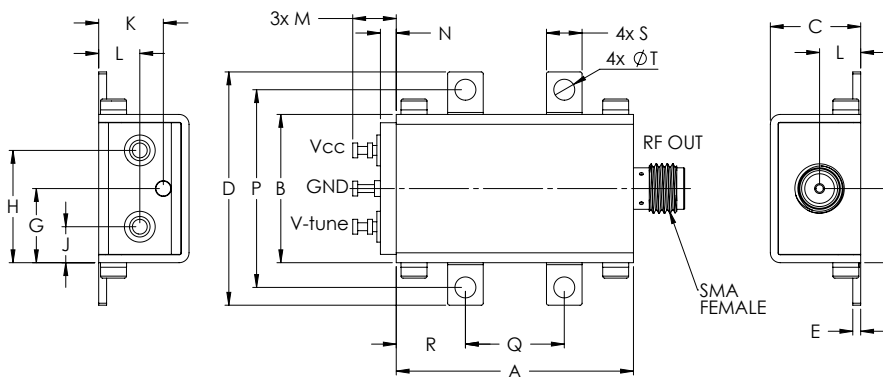
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	15V
Absolute Max. Tuning Voltage (Vtune)	25V
All specifications	50 ohm system

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



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

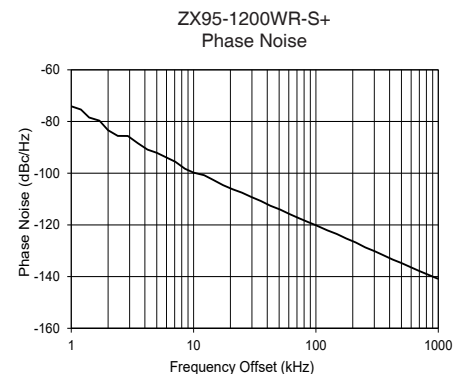
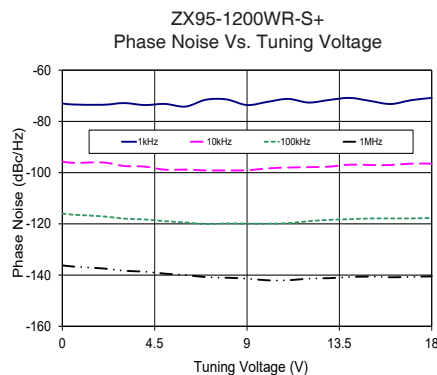
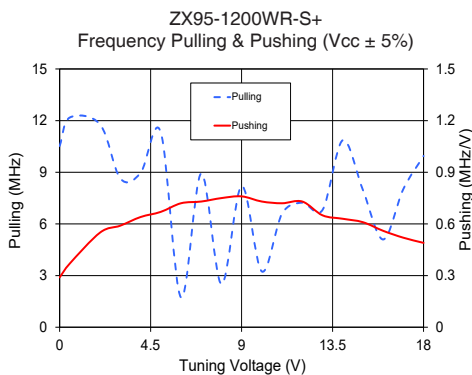
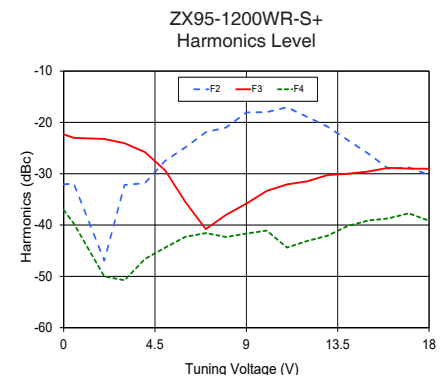
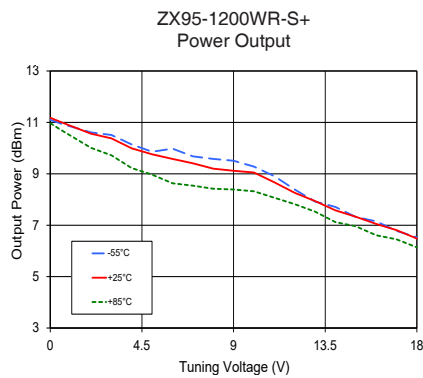
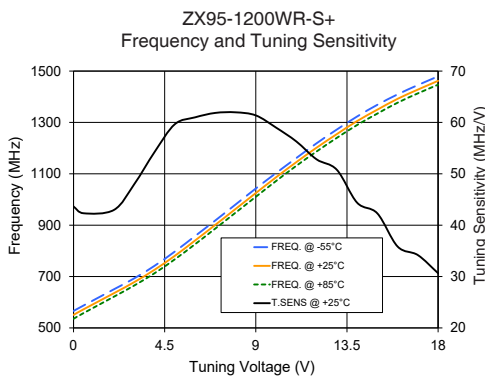
REV. OR
M171386
EDR-11748
ZX95-1200WR-S+
RAV
181204
Page 2 of 3

Performance Data & Curves*

ZX95-1200WR-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 906 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	43.64	566.0	550.8	535.3	11.10	11.18	10.97	27.10	-32.1	-22.3	-37.1	0.29	10.53	-73.01	-95.7	-116.0	-136.2	1.0	-74.11
2.00	42.97	650.6	635.4	621.6	10.61	10.56	10.01	27.12	-47.0	-23.2	-50.0	0.55	11.78	-73.51	-96.0	-117.1	-137.4	2.0	-83.37
3.00	47.98	693.0	678.4	665.1	10.51	10.38	9.72	27.13	-32.2	-24.1	-50.8	0.59	8.64	-72.86	-97.4	-118.0	-138.3	3.5	-88.37
4.00	54.23	741.8	726.4	712.8	10.14	9.99	9.22	27.16	-31.8	-25.8	-46.6	0.64	8.96	-73.62	-97.6	-118.3	-138.6	6.0	-93.92
5.00	59.65	797.2	780.6	766.8	9.86	9.76	8.97	27.19	-27.5	-29.4	-44.4	0.67	11.33	-73.19	-98.8	-119.0	-139.4	8.5	-98.27
6.00	61.00	857.6	840.2	825.7	9.98	9.58	8.63	27.24	-24.9	-35.5	-42.3	0.72	1.73	-74.22	-98.8	-119.5	-139.9	10.0	-99.77
7.00	61.86	918.4	901.2	886.8	9.68	9.41	8.54	27.31	-21.9	-40.8	-41.6	0.73	8.93	-71.53	-99.1	-120.1	-140.8	20.8	-106.19
8.00	61.98	980.5	963.1	948.7	9.58	9.20	8.42	27.37	-21.0	-38.0	-42.3	0.75	2.50	-71.42	-99.1	-119.8	-141.0	35.5	-110.76
9.00	61.37	1042.9	1025.1	1010.5	9.51	9.12	8.39	27.45	-18.1	-35.8	-41.7	0.76	8.21	-73.63	-99.1	-119.9	-141.4	60.7	-115.78
10.00	59.00	1103.1	1086.4	1072.0	9.28	9.05	8.32	27.58	-18.0	-33.4	-41.1	0.73	3.24	-72.37	-98.3	-119.9	-142.0	86.7	-118.94
11.00	56.30	1161.5	1145.4	1131.2	8.91	8.67	8.07	27.70	-17.1	-32.1	-44.4	0.72	6.60	-71.22	-98.0	-119.7	-142.0	100.0	-120.13
12.00	52.81	1218.9	1201.7	1187.0	8.39	8.26	7.82	27.80	-18.9	-31.5	-43.1	0.73	7.24	-72.65	-97.8	-119.0	-141.4	148.1	-123.51
13.00	50.78	1272.5	1254.6	1240.1	7.92	7.94	7.53	27.91	-20.8	-30.3	-42.1	0.65	6.81	-71.64	-97.7	-118.4	-141.2	177.0	-125.25
14.00	44.38	1323.2	1305.3	1290.0	7.71	7.58	7.12	28.03	-23.5	-30.0	-40.2	0.63	10.86	-70.83	-96.9	-118.2	-140.8	211.6	-126.79
15.00	42.29	1368.7	1349.7	1334.6	7.32	7.33	6.96	28.08	-26.1	-29.6	-39.1	0.61	7.97	-72.02	-97.0	-117.9	-140.6	302.4	-130.20
16.00	35.83	1409.4	1392.0	1377.0	7.15	7.05	6.61	28.17	-29.0	-28.9	-38.7	0.56	5.10	-73.22	-97.0	-117.9	-140.8	355.1	-131.70
17.00	34.17	1445.6	1427.8	1413.3	6.78	6.81	6.45	28.16	-28.8	-29.0	-37.7	0.52	8.03	-71.72	-96.5	-117.9	-140.7	498.5	-134.73
18.00	30.63	1479.5	1462.0	1447.2	6.53	6.48	6.14	28.14	-30.2	-29.0	-39.2	0.49	9.95	-70.83	-96.5	-117.7	-140.5	595.9	-136.37
19.00	29.36	1508.2	1492.6	1478.5	6.36	6.32	5.94	28.13	-30.3	-30.2	-41.3	0.28	7.98	-69.76	-96.2	-117.1	-139.9	982.3	-140.72
20.00	29.36	1538.9	1522.0	1506.8	6.10	6.15	5.79	28.08	-28.8	-32.8	-46.3	0.04	6.05	-68.78	-94.8	-115.7	-138.5	1000.0	-140.77

*at 25°C unless mentioned otherwise



Additional 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

