

Coaxial

# Voltage Controlled Oscillator

## ZX95-1300A+

5V Tuning for PLL IC's 1249 to 1300 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
- WiMAX 3.5GHz



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-1300A-S+	\$ 44.95 ea.	(1-9)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

*The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.*

### Electrical Specifications

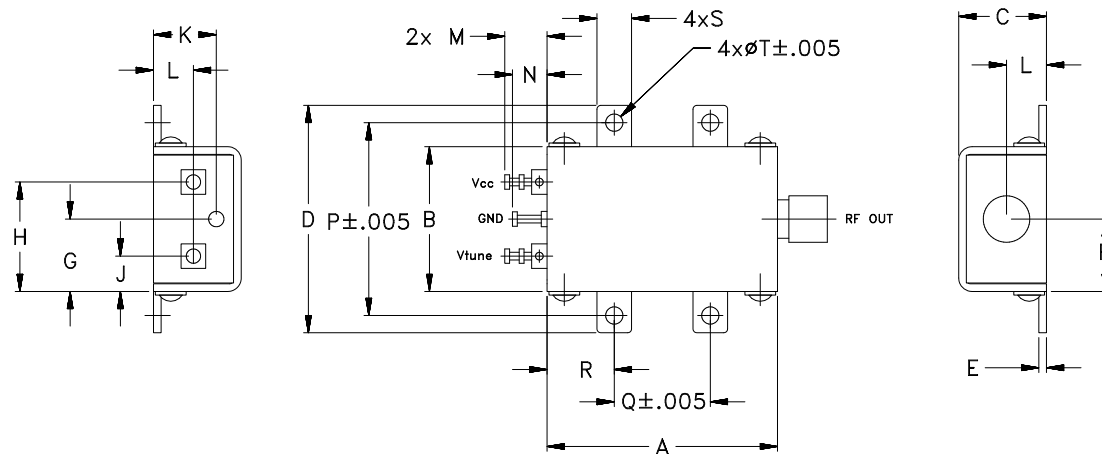
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Max.			Typ.	Typ.	Vcc	Current
									Min.	Max.	Typ.	Typ.		Typ.							(volts)
ZX95-1300A+	1249	1300	-1	-83	-111	-132	-152	0.5	5	20	40	45	-90	-22	-15	0.2	0.2	5	40		

### 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)	7V
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	.45	.57	.18	.33	.21	.22	.18	1.00	.50	.35	.18	.106	GRAM
30.48	19.05	11.68	29.97	1.02	9.65	11.43	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

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

**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).

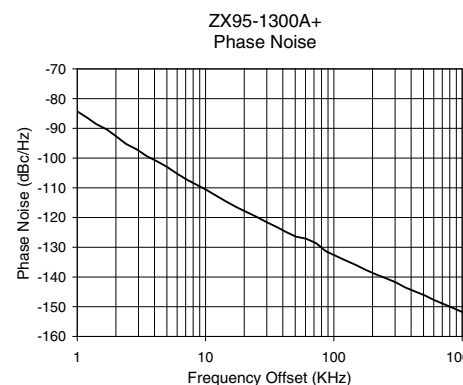
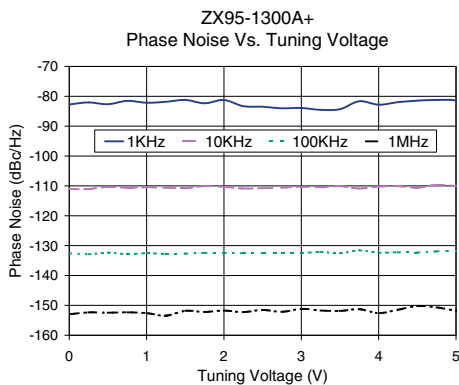
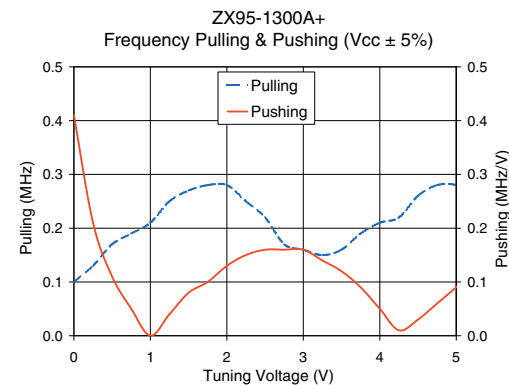
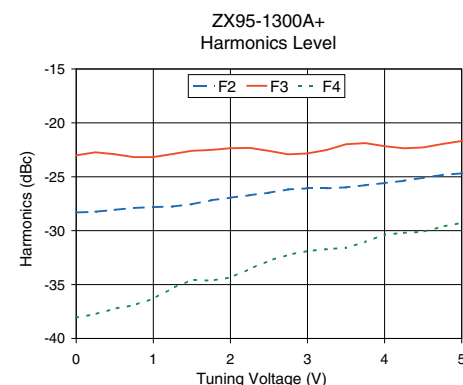
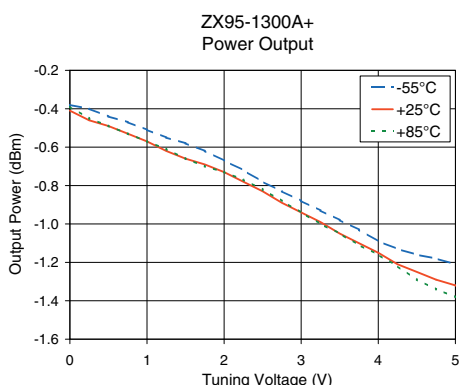
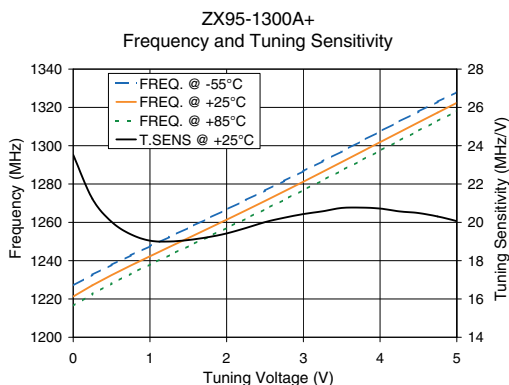
REV. OR  
M122038  
EDR-8713F2  
ZX95-1300A+  
RAV  
090830  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-1300A+

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 1275 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	23.53	1227.0	1221.3	1216.4	-0.38	-0.41	-0.39	30.32	-28.3	-23.0	-38.1	0.41	0.10	-82.8	-111.1	-132.6	-152.9	1.0	-84.30
0.50	20.03	1237.8	1232.4	1228.0	-0.44	-0.49	-0.49	30.21	-28.1	-22.9	-37.2	0.11	0.17	-82.7	-110.3	-132.3	-152.5	2.0	-92.62
0.75	19.37	1242.7	1237.5	1233.1	-0.47	-0.53	-0.53	30.15	-27.9	-23.2	-36.9	0.05	0.19	-81.5	-110.6	-132.9	-152.3	3.5	-99.40
1.00	19.04	1247.5	1242.3	1238.0	-0.51	-0.57	-0.57	30.09	-27.8	-23.2	-36.3	0.00	0.21	-82.2	-110.5	-132.5	-152.6	6.0	-105.26
1.25	19.00	1252.3	1247.1	1242.8	-0.55	-0.62	-0.61	30.02	-27.8	-22.9	-35.3	0.04	0.25	-81.8	-110.6	-132.8	-153.5	8.5	-108.95
1.50	19.08	1257.1	1251.8	1247.5	-0.58	-0.66	-0.66	29.96	-27.5	-22.6	-34.6	0.08	0.27	-81.2	-110.8	-132.7	-151.8	10.0	-110.53
1.75	19.22	1261.9	1256.6	1252.3	-0.62	-0.69	-0.70	29.90	-27.2	-22.5	-34.6	0.10	0.28	-82.3	-110.1	-132.4	-152.2	20.8	-118.12
2.00	19.42	1266.7	1261.4	1257.1	-0.67	-0.73	-0.73	29.83	-26.9	-22.4	-34.3	0.13	0.28	-81.2	-110.3	-132.4	-151.8	35.5	-123.10
2.25	19.70	1271.6	1266.2	1261.9	-0.72	-0.78	-0.77	29.76	-26.7	-22.3	-33.6	0.15	0.25	-83.3	-110.9	-132.6	-152.3	60.7	-127.12
2.50	20.01	1276.6	1271.2	1266.8	-0.78	-0.83	-0.82	29.69	-26.5	-22.6	-32.8	0.16	0.22	-83.5	-110.8	-132.5	-151.5	86.7	-131.33
2.75	20.24	1281.6	1276.2	1271.8	-0.83	-0.89	-0.88	29.62	-26.2	-22.9	-32.2	0.16	0.17	-84.0	-110.6	-132.5	-152.1	100.0	-132.61
3.00	20.43	1286.7	1281.2	1276.8	-0.88	-0.94	-0.94	29.54	-26.1	-22.8	-31.9	0.16	0.16	-83.9	-110.3	-132.5	-151.2	148.1	-135.93
3.25	20.58	1291.9	1286.3	1281.9	-0.93	-0.99	-1.00	29.47	-26.1	-22.5	-31.7	0.14	0.15	-84.5	-110.5	-132.1	-151.7	177.0	-137.59
3.50	20.75	1297.0	1291.5	1287.1	-0.98	-1.05	-1.05	29.39	-26.0	-22.0	-31.6	0.12	0.16	-84.3	-110.1	-132.6	-151.8	211.6	-139.09
3.75	20.77	1302.2	1296.7	1292.2	-1.03	-1.10	-1.11	29.32	-25.8	-21.9	-31.0	0.09	0.19	-81.7	-110.9	-131.6	-151.3	302.4	-141.76
4.00	20.72	1307.4	1301.9	1297.4	-1.09	-1.15	-1.16	29.25	-25.6	-22.2	-30.4	0.05	0.21	-82.8	-110.2	-132.4	-152.6	361.5	-143.56
4.25	20.57	1312.6	1307.0	1302.6	-1.13	-1.21	-1.22	29.17	-25.4	-22.4	-30.2	0.01	0.22	-82.0	-110.1	-132.2	-151.5	507.5	-146.14
4.50	20.49	1317.8	1312.2	1307.8	-1.16	-1.25	-1.29	29.11	-25.1	-22.3	-30.1	0.03	0.26	-81.5	-110.6	-132.3	-150.2	606.7	-147.79
4.75	20.30	1322.9	1317.3	1312.9	-1.18	-1.29	-1.34	29.03	-24.8	-22.0	-29.6	0.06	0.28	-81.2	-109.7	-131.9	-150.7	851.6	-150.43
5.00	20.06	1328.0	1322.4	1318.0	-1.21	-1.32	-1.38	28.97	-24.7	-21.7	-29.3	0.09	0.28	-81.4	-110.0	-131.7	-151.7	1000.0	-151.77

\*at 25°C unless mentioned otherwise



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

**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).