

Coaxial

# Voltage Controlled Oscillator

## ZX95-748+

Linear Tuning 690 to 749 MHz

### Features

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

### Applications

- r & d
- lab
- instrumentation
- wireless communications
- CDMA
- wireless radio, microphones & TV broadcasting



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-748-S+	\$ 40.95 ea.	(1-9)

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

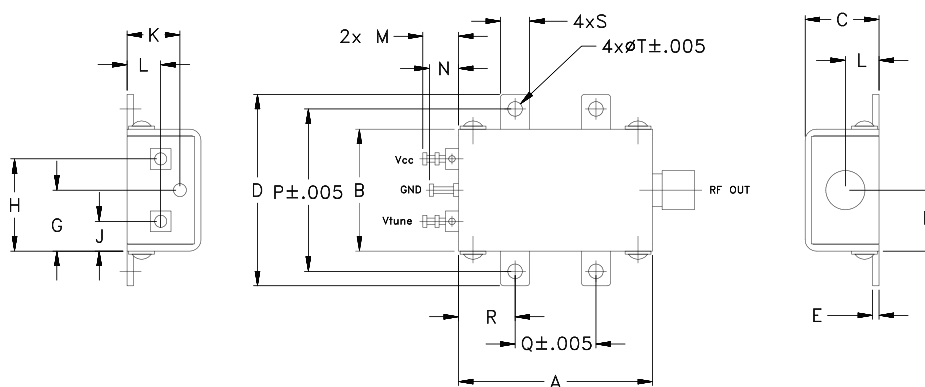
### Electrical Specifications

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)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.
ZX95-748+	690	749	0	-91	-115	-136	-155	0.5	14	7	81	32	-90	-18	-10	0.3	0.06	5	31

### Maximum Ratings

Operating Temperature -55°C to 85°C  
 Storage Temperature -55°C to 100°C  
 Absolute Max. Supply Voltage (Vcc) 6.6V  
 Absolute Max. Tuning Voltage (Vtune) 15.0V  
 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	.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



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).

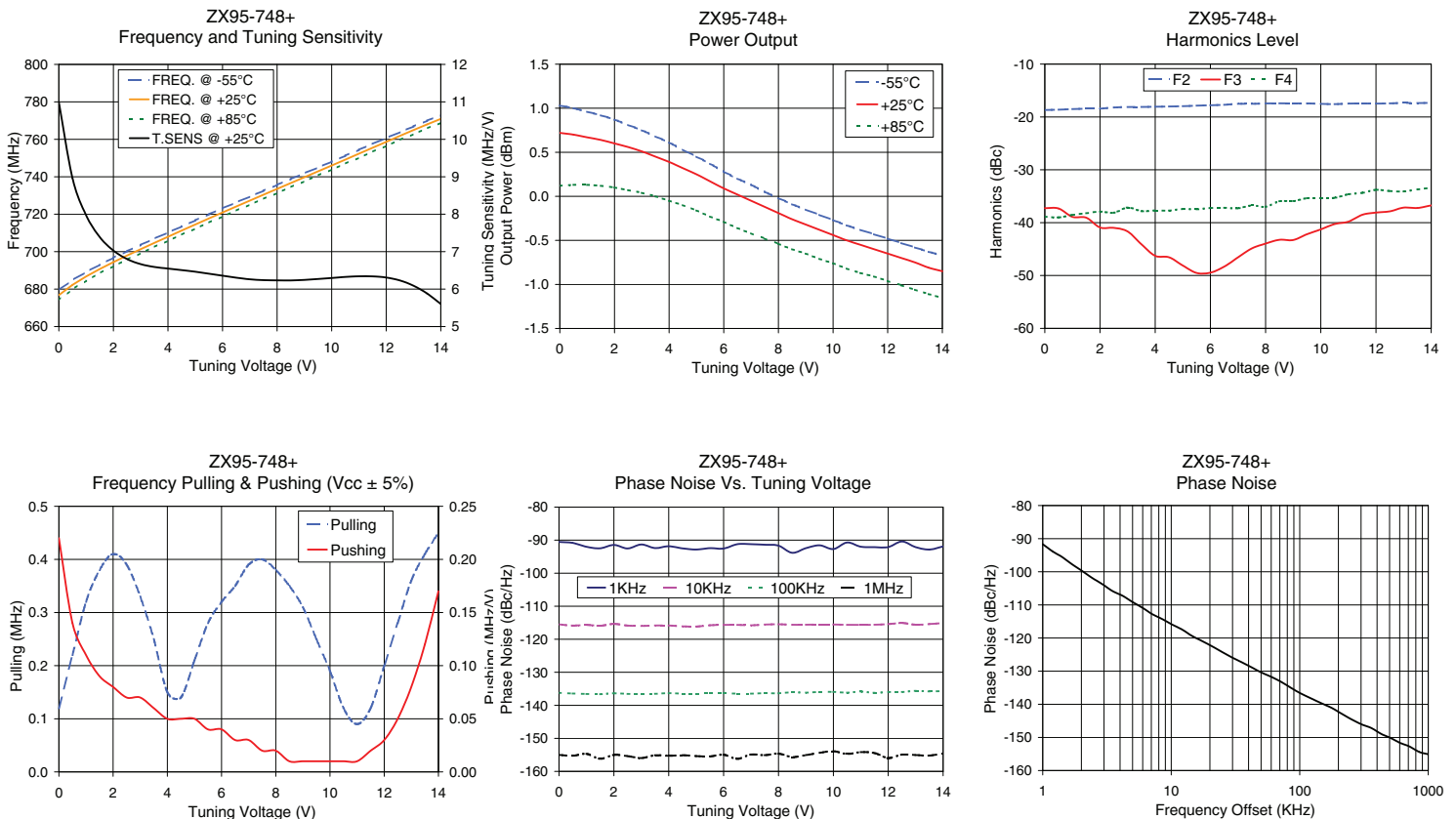
REV. OR  
M127650  
EDR-9990/1F2  
ZX95-748+  
RAV  
120830  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-748+

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 720 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	10.99	679.5	676.8	674.2	1.03	0.72	0.12	25.58	-18.7	-37.3	-38.9	0.22	0.12	-90.5	-115.5	-136.2	-155.0	1.0	-91.67
0.50	8.97	684.8	682.3	679.9	1.00	0.70	0.13	25.60	-18.6	-37.3	-39.0	0.14	0.22	-90.8	-115.9	-136.4	-155.3	2.0	-99.61
1.00	7.97	689.1	686.7	684.5	0.96	0.67	0.13	25.61	-18.5	-38.9	-38.5	0.11	0.32	-92.0	-115.7	-136.6	-154.7	3.5	-105.85
1.50	7.39	693.1	690.7	688.5	0.92	0.64	0.12	25.62	-18.5	-39.1	-38.2	0.09	0.38	-92.5	-115.9	-136.6	-156.2	6.0	-110.92
2.00	7.03	696.7	694.4	692.2	0.87	0.60	0.10	25.63	-18.4	-40.9	-37.9	0.08	0.41	-91.5	-115.3	-136.4	-155.0	8.5	-114.27
3.00	6.67	703.6	701.3	699.2	0.75	0.51	0.04	25.65	-18.1	-41.7	-37.1	0.07	0.33	-91.3	-116.0	-136.5	-156.0	10.0	-115.78
4.00	6.55	710.2	708.0	705.8	0.61	0.39	-0.05	25.67	-18.1	-46.3	-37.7	0.05	0.15	-91.9	-115.8	-136.3	-155.3	20.8	-122.52
5.00	6.46	716.7	714.5	712.3	0.45	0.25	-0.16	25.69	-18.0	-48.1	-37.4	0.05	0.21	-92.8	-116.2	-136.5	-155.4	35.5	-127.35
6.00	6.36	723.1	720.9	718.7	0.28	0.09	-0.29	25.70	-17.8	-49.5	-37.2	0.04	0.32	-92.5	-115.6	-136.4	-155.0	60.7	-131.81
7.00	6.26	729.4	727.3	725.1	0.13	-0.05	-0.42	25.71	-17.5	-46.6	-37.3	0.03	0.39	-91.2	-115.8	-136.5	-154.9	86.7	-135.20
8.00	6.23	735.7	733.5	731.3	-0.02	-0.19	-0.54	25.73	-17.4	-44.0	-37.0	0.02	0.38	-91.7	-115.5	-136.4	-154.6	100.0	-136.57
9.00	6.25	741.9	739.8	737.6	-0.15	-0.32	-0.65	25.73	-17.4	-43.3	-35.9	0.01	0.31	-92.4	-115.6	-136.2	-155.1	148.1	-139.73
9.50	6.27	745.0	742.9	740.7	-0.21	-0.38	-0.71	25.74	-17.4	-42.2	-35.4	0.01	0.25	-91.6	-115.5	-135.9	-154.4	177.0	-141.08
10.00	6.30	748.1	746.0	743.8	-0.27	-0.44	-0.76	25.75	-17.5	-41.3	-35.3	0.01	0.19	-92.7	-115.5	-135.9	-153.9	211.6	-142.83
10.50	6.33	751.2	749.2	747.0	-0.33	-0.50	-0.82	25.75	-17.6	-40.3	-35.3	0.01	0.12	-90.7	-115.6	-136.2	-154.7	302.4	-146.06
11.00	6.34	754.4	752.3	750.1	-0.38	-0.55	-0.87	25.75	-17.5	-39.8	-34.6	0.01	0.09	-92.0	-115.6	-135.8	-154.2	361.5	-147.17
12.00	6.31	760.7	758.7	756.5	-0.48	-0.65	-0.96	25.77	-17.5	-38.1	-33.8	0.03	0.20	-92.1	-115.4	-136.0	-156.0	507.5	-150.16
13.00	6.09	766.9	764.9	762.8	-0.58	-0.75	-1.06	25.79	-17.4	-37.2	-34.1	0.08	0.36	-92.1	-115.6	-135.6	-155.1	606.7	-151.69
13.50	5.88	769.9	768.0	765.8	-0.63	-0.81	-1.11	25.79	-17.4	-37.2	-33.7	0.12	0.41	-92.9	-115.4	-135.8	-155.2	851.6	-154.39
14.00	5.60	772.9	770.9	768.8	-0.67	-0.85	-1.15	25.80	-17.3	-36.7	-33.4	0.17	0.45	-91.9	-115.1	-135.7	-154.6	1000.0	-155.10

\*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 [minicircuits.com](http://www.minicircuits.com) Provides ACTUAL Data Instantly at [minicircuits.com](http://www.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).