

# Voltage Controlled Oscillator

ZX95-400+

Linear Tuning 200 to 380 MHz

## Features

- excellent harmonic suppression
- high power output, +10dBm typ.
- low phase noise
- wide bandwidth
- low pushing & pulling
- protected by US patent 6,790,049



CASE STYLE: GB956  
 Connectors Model  
**SMA** ZX95-400-S+

## Applications

- R & D
- lab
- instrumentation
- test equipment

**+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					NON HARMONIC SPURIOUS (dBc)		HARMONICS (dBc)		PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER Vcc Current (volts) (mA)		
								VOLTAGE RANGE (V)		SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)									
								Min.	Max.			Typ.									Typ.
ZX95-400+	200	380	+10	-83	-104	-125	-145	0.5	17	10-18	580	0.13	-90	-25	-18	0.5	0.2	12	21		

## Maximum Ratings

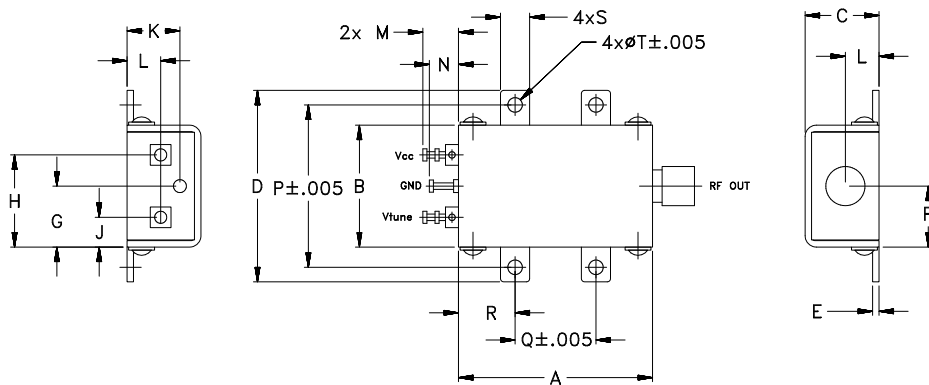
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	13V
Absolute Max. Tuning Voltage (Vtune)	18V
All specifications	50 ohm system

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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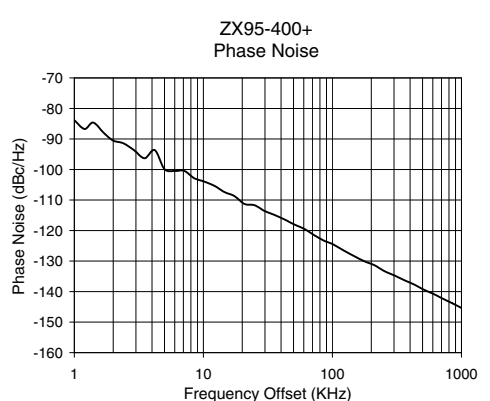
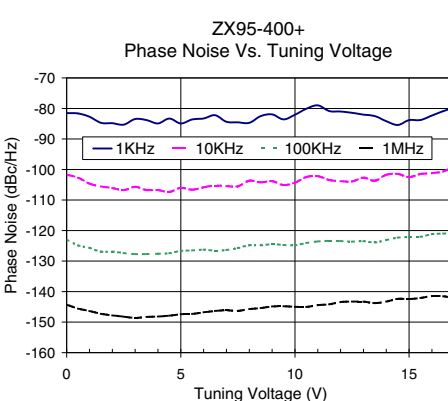
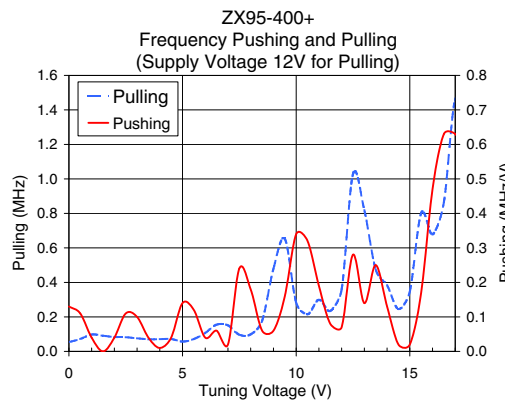
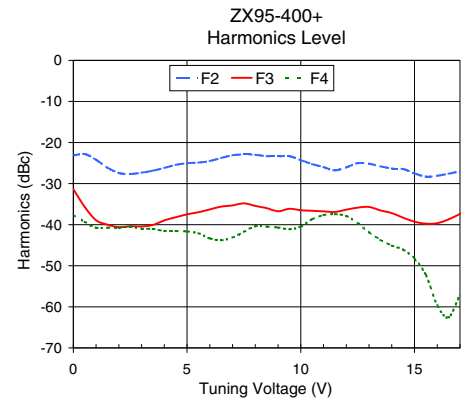
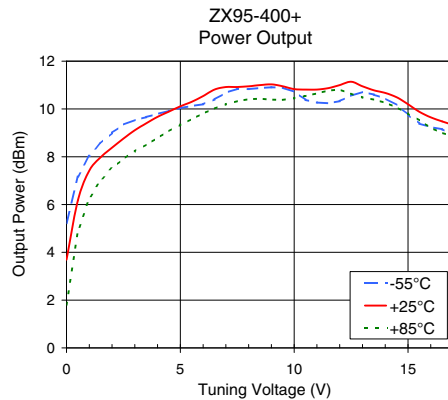
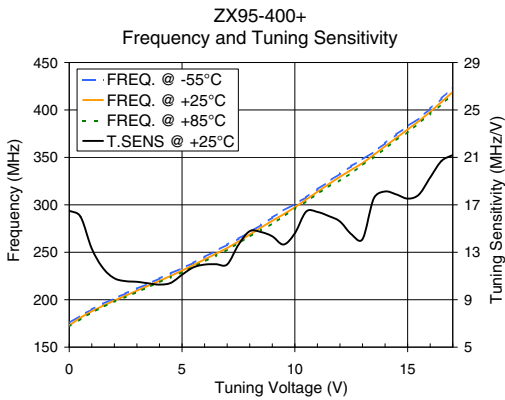


# Performance Data & Curves\*

# ZX95-400+

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 290 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	16.50	175.5	172.9	171.5	5.22	3.69	1.81	15.93	-23.1	-31.4	-37.6	0.13	0.05	-81.5	-101.7	-123.0	-144.3	1.0	-83.87
0.50	16.00	183.3	181.2	179.9	7.17	6.17	4.86	16.01	-22.8	-35.7	-39.3	0.11	0.07	-81.6	-102.7	-124.9	-145.6	2.0	-90.52
1.00	13.30	189.8	187.8	186.5	8.04	7.42	6.26	16.05	-24.2	-38.9	-40.8	0.04	0.10	-82.7	-104.6	-125.7	-146.4	3.5	-96.31
1.50	11.66	195.7	193.7	192.4	8.56	7.98	7.02	16.08	-26.1	-40.0	-40.7	0.00	0.09	-84.7	-105.5	-126.9	-147.3	6.0	-100.48
2.00	10.81	201.3	199.1	197.8	9.00	8.38	7.53	16.09	-27.4	-40.6	-40.8	0.04	0.08	-84.8	-106.1	-126.9	-147.8	8.5	-102.87
3.00	10.51	211.7	209.6	208.1	9.54	9.11	8.23	16.09	-27.3	-40.4	-41.0	0.10	0.08	-83.5	-105.7	-127.7	-148.6	10.0	-103.87
4.00	10.28	222.3	219.9	218.4	9.79	9.67	8.79	16.07	-26.2	-39.0	-41.5	0.01	0.07	-84.9	-106.7	-127.6	-148.2	20.8	-111.29
5.00	11.10	233.2	230.7	229.2	10.04	10.11	9.34	16.02	-25.0	-37.5	-41.7	0.14	0.06	-84.9	-106.0	-126.7	-147.4	35.5	-114.86
6.00	11.96	245.0	242.5	240.3	10.20	10.54	9.81	15.98	-24.5	-36.3	-43.3	0.04	0.11	-83.3	-105.8	-126.2	-146.8	60.7	-119.49
7.00	11.98	258.0	254.5	252.7	10.68	10.92	10.20	15.88	-23.1	-35.3	-43.1	0.02	0.15	-84.4	-105.4	-126.4	-146.1	86.7	-123.38
8.00	14.78	271.1	268.7	266.6	10.83	10.95	10.41	15.78	-23.0	-35.4	-40.4	0.18	0.10	-84.7	-103.7	-124.8	-145.8	100.0	-124.42
9.00	14.35	286.6	283.2	280.3	10.91	11.03	10.39	15.70	-23.4	-36.7	-40.7	0.06	0.48	-81.9	-103.8	-124.5	-144.9	211.6	-131.36
10.00	14.60	300.9	297.4	295.7	10.72	10.83	10.45	15.55	-24.3	-36.5	-40.5	0.34	0.28	-82.1	-104.3	-124.8	-145.0	302.4	-134.70
11.00	16.40	316.3	313.8	311.5	10.27	10.81	10.65	15.47	-26.0	-36.8	-37.7	0.19	0.30	-79.0	-102.2	-123.6	-144.4	361.5	-136.27
12.00	15.59	332.9	329.6	326.2	10.33	11.00	10.81	15.39	-26.1	-36.3	-37.9	0.07	0.36	-81.0	-103.8	-123.4	-143.4	432.2	-137.73
13.00	14.11	347.9	343.9	341.8	10.71	10.95	10.48	15.24	-25.2	-35.7	-41.8	0.14	0.82	-82.0	-102.7	-123.5	-143.3	507.5	-139.33
14.00	18.13	365.0	361.8	359.4	10.44	10.67	10.26	15.16	-26.3	-37.2	-45.1	0.13	0.38	-84.2	-101.7	-123.1	-143.3	606.7	-140.75
15.00	17.53	382.8	379.5	376.9	9.76	10.20	9.81	15.08	-27.5	-39.3	-48.3	0.02	0.35	-83.8	-102.5	-122.1	-142.5	712.4	-142.25
16.00	19.31	401.4	398.0	395.6	9.24	9.65	9.21	14.99	-28.1	-39.6	-59.6	0.47	0.68	-82.3	-101.2	-121.2	-141.5	851.6	-143.83
17.00	21.19	423.1	419.0	416.1	8.95	9.31	8.86	14.94	-27.1	-37.4	-57.2	0.63	1.46	-79.6	-98.9	-120.8	-142.2	1000.0	-145.35

\*at 25°C unless mentioned otherwise



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