

# Voltage Controlled Oscillator

## ZX95-1590+

5V Tuning for PLL IC's 1590 MHz

### Features

- low phase noise
- low pulling
- low pushing
- protected by US patent 6,790,049

### Applications

- r & d
- lab
- instrumentation
- wireless communications
- cellular infrastructure



CASE STYLE: GB956

Connectors	Model
SMA	ZX95-1590-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				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)			PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	Min.	Max.		Typ.	Typ.				VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.	Max.			Typ.	Typ.	Vcc (volts)	Current (mA)
	1	10			100	1000	Min.	Max.														
ZX95-1590+	1590		+0.5	-86	-112	-132	-151	1	3.9	17	18	100	-90	-23	-15	0.4	0.6	5	33			

### Maximum Ratings

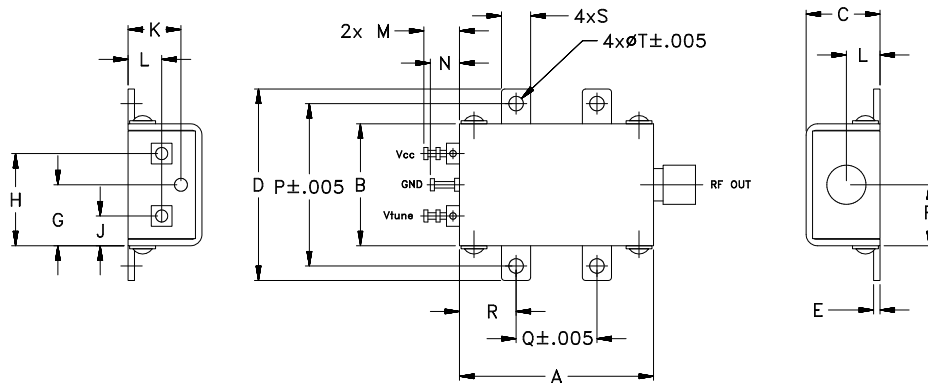
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	6V
Absolute Max. Tuning Voltage (Vtune)	6V
All specifications	50 ohm system

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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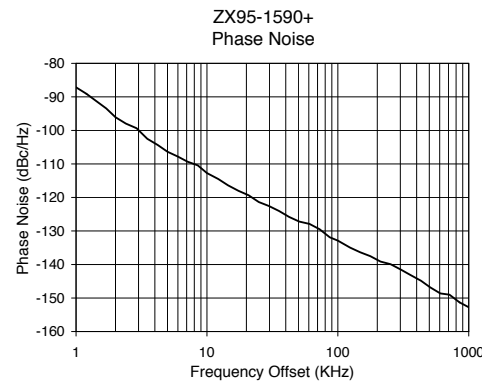
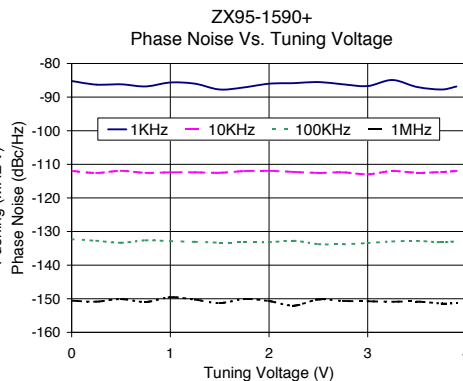
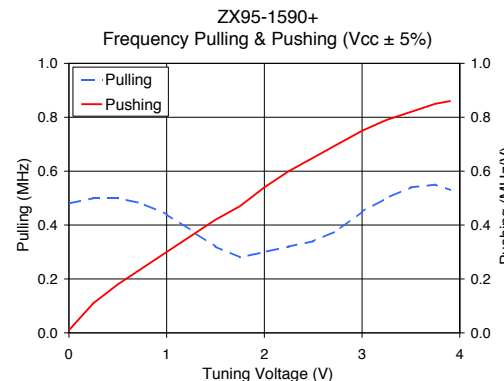
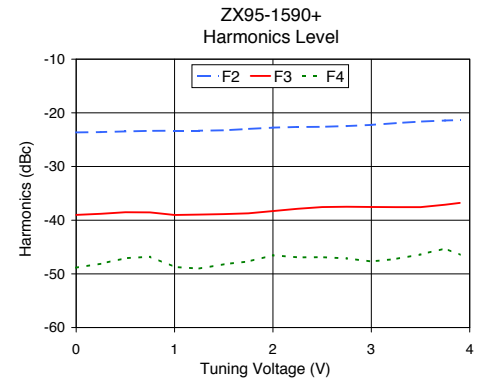
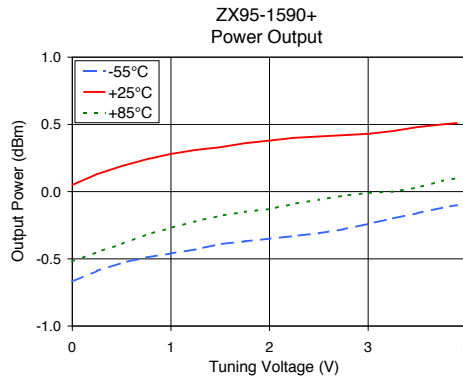
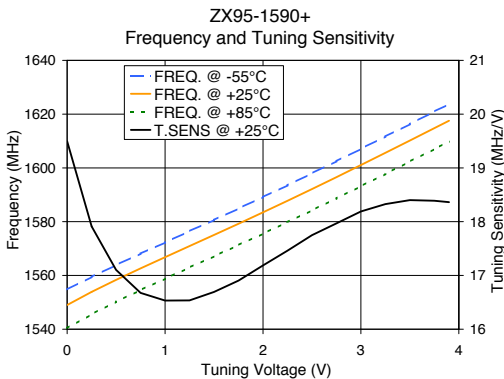


# Performance Data & Curves\*

# ZX95-1590+

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 1590 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	19.50	1554.8	1549.0	1540.4	-0.67	0.05	-0.52	27.25	-23.7	-39.0	-48.9	0.01	0.48	-85.2	-112.0	-132.3	-150.6	1.0	-87.15
0.25	17.91	1559.5	1553.9	1545.6	-0.59	0.13	-0.45	27.35	-23.6	-38.8	-48.1	0.11	0.50	-86.3	-112.6	-132.8	-150.9	2.0	-96.07
0.50	17.10	1563.9	1558.4	1550.2	-0.53	0.19	-0.39	27.45	-23.5	-38.5	-47.1	0.18	0.50	-86.2	-111.9	-133.4	-150.1	4.2	-104.34
0.75	16.68	1568.1	1562.6	1554.6	-0.49	0.24	-0.32	27.53	-23.4	-38.6	-46.8	0.24	0.48	-86.8	-112.6	-132.6	-151.0	6.0	-107.82
1.00	16.53	1572.3	1566.8	1558.8	-0.46	0.28	-0.27	27.62	-23.3	-39.0	-48.7	0.30	0.44	-85.7	-112.4	-132.9	-149.6	8.5	-110.43
1.25	16.54	1576.4	1570.9	1563.0	-0.43	0.31	-0.22	27.70	-23.3	-39.0	-49.0	0.36	0.38	-86.0	-112.4	-133.1	-150.3	10.0	-112.74
1.50	16.69	1580.6	1575.1	1567.1	-0.39	0.33	-0.18	27.78	-23.3	-38.9	-48.2	0.42	0.32	-87.7	-112.5	-133.3	-151.3	20.8	-119.34
1.75	16.91	1584.9	1579.2	1571.3	-0.37	0.36	-0.15	27.87	-23.0	-38.7	-47.7	0.47	0.28	-87.1	-112.0	-133.2	-150.1	42.5	-125.83
2.00	17.19	1589.2	1583.5	1575.5	-0.35	0.38	-0.13	27.95	-22.8	-38.3	-46.5	0.54	0.30	-86.0	-111.9	-133.2	-150.7	60.7	-127.89
2.25	17.46	1593.5	1587.8	1579.8	-0.33	0.40	-0.09	28.03	-22.6	-37.9	-46.9	0.60	0.32	-85.9	-112.3	-132.7	-152.1	86.7	-131.89
2.50	17.75	1598.0	1592.1	1584.2	-0.31	0.41	-0.06	28.12	-22.6	-37.6	-46.9	0.65	0.34	-85.5	-112.6	-133.8	-150.2	100.0	-132.88
2.75	17.97	1602.5	1596.6	1588.7	-0.28	0.42	-0.03	28.21	-22.5	-37.5	-47.1	0.70	0.38	-86.2	-112.4	-133.8	-150.7	302.4	-141.50
3.00	18.19	1607.1	1601.1	1593.2	-0.24	0.43	-0.01	28.30	-22.2	-37.5	-47.7	0.75	0.45	-86.7	-113.0	-133.4	-150.8	432.2	-144.86
3.25	18.33	1611.7	1605.6	1597.7	-0.20	0.45	0.00	28.39	-21.9	-37.6	-47.2	0.79	0.50	-84.9	-112.0	-133.0	-150.9	507.5	-146.81
3.50	18.40	1616.3	1610.2	1602.4	-0.16	0.48	0.03	28.48	-21.6	-37.6	-46.4	0.82	0.54	-87.0	-112.5	-132.8	-150.8	712.4	-149.01
3.75	18.39	1621.0	1614.8	1607.0	-0.12	0.50	0.08	28.58	-21.4	-37.1	-45.3	0.85	0.55	-87.7	-112.3	-133.2	-151.4	851.6	-151.30
3.90	18.36	1623.7	1617.5	1609.8	-0.10	0.51	0.10	28.63	-21.4	-36.8	-46.4	0.86	0.53	-86.9	-112.0	-132.9	-151.4	1000.0	-152.76

\*at 25°C unless mentioned otherwise



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