Coaxial

Voltage Controlled Oscillator ZX95-540+

5V Tuning for PLL IC's 390 to 540 MHz

Features

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

Applications

- r & d
- lab
- instrumentation
- cellular infrastructure
- PMR / PAMR

CASE STYLE: GB956

Connectors	Model
SMA	ZX95-540-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 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
				Typ.				VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)						Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ZX95-540+	390	540	-1.5	-78	-105	-125	-145	0.5	5	44 - 54	100	7	-90	-30	-20	0.02	1	5	37

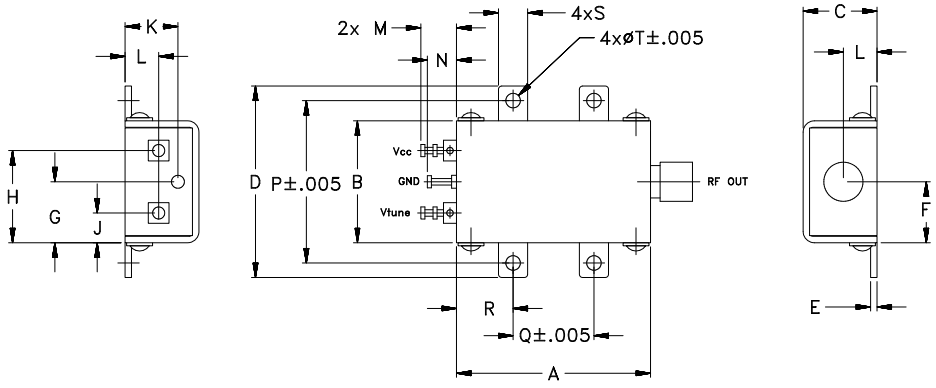
Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
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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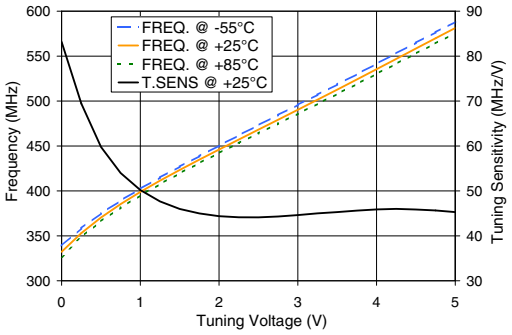
Performance Data & Curves*

ZX95-540+

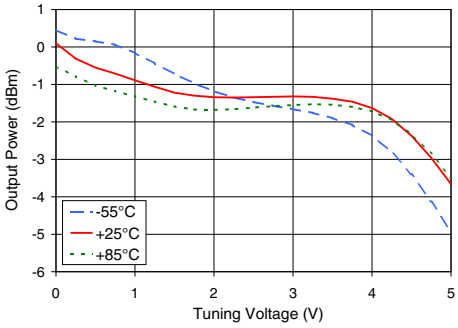
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 460 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	83.17	338.9	332.3	326.5	0.45	0.10	-0.52	28.72	-24.9	-32.4	-35.6	3.33	0.02	-73.8	-101.5	-122.8	-141.6	1.0	-78.35
0.25	69.45	358.5	353.1	348.6	0.22	-0.31	-0.79	29.02	-28.2	-32.1	-34.5	3.05	0.02	-72.2	-100.6	-124.0	-142.0	2.0	-86.60
0.50	59.78	375.0	370.4	366.3	0.15	-0.55	-1.03	29.22	-29.4	-32.9	-33.7	2.22	0.04	-73.7	-102.4	-124.8	-143.6	3.5	-93.90
0.75	53.98	389.2	385.4	381.4	0.06	-0.71	-1.18	29.38	-30.1	-33.9	-33.3	1.71	0.01	-74.8	-103.5	-125.6	-144.1	6.0	-99.09
1.00	50.19	402.4	398.9	395.0	-0.16	-0.89	-1.32	29.50	-30.4	-34.5	-33.1	1.38	0.01	-76.4	-104.3	-125.7	-144.4	8.5	-103.16
1.25	47.66	414.9	411.4	407.6	-0.44	-1.06	-1.46	29.60	-30.8	-34.9	-33.0	1.14	0.01	-77.6	-105.3	-126.2	-144.7	10.0	-105.73
1.50	45.98	427.0	423.3	419.5	-0.72	-1.22	-1.59	29.69	-31.3	-35.3	-33.1	0.94	0.01	-77.6	-104.5	-126.2	-144.4	20.8	-111.91
1.75	44.98	438.8	434.8	431.0	-0.97	-1.30	-1.67	29.76	-31.7	-35.4	-33.4	0.78	0.01	-78.2	-105.0	-126.6	-144.9	35.5	-117.14
2.00	44.38	450.4	446.1	442.2	-1.18	-1.34	-1.68	29.84	-32.1	-35.2	-33.9	0.65	0.01	-78.7	-105.4	-126.1	-145.0	60.7	-121.16
2.25	44.14	461.8	457.2	453.2	-1.35	-1.35	-1.66	29.90	-32.6	-35.0	-34.4	0.53	0.01	-78.8	-105.4	-126.0	-144.8	86.7	-124.83
2.50	44.12	473.1	468.2	464.1	-1.47	-1.34	-1.62	29.95	-33.3	-34.6	-35.4	0.43	0.02	-76.7	-104.8	-125.9	-144.5	100.0	-125.97
2.75	44.31	484.4	479.2	474.9	-1.57	-1.33	-1.58	29.99	-34.1	-34.2	-36.0	0.34	0.02	-78.1	-104.6	-125.7	-144.4	148.1	-129.14
3.00	44.63	495.7	490.3	485.9	-1.66	-1.32	-1.55	30.03	-34.7	-33.8	-37.1	0.27	0.02	-77.3	-104.7	-125.4	-144.0	177.0	-130.57
3.25	45.00	507.0	501.5	496.8	-1.76	-1.33	-1.53	30.06	-35.5	-33.5	-38.3	0.23	0.01	-77.9	-104.5	-125.3	-143.8	211.6	-131.96
3.50	45.29	518.4	512.7	507.9	-1.90	-1.38	-1.54	30.08	-36.2	-33.2	-39.5	0.21	0.02	-78.7	-104.5	-125.1	-143.8	302.4	-134.88
3.75	45.61	529.9	524.0	519.0	-2.08	-1.46	-1.60	30.10	-37.2	-33.1	-40.9	0.22	0.02	-78.8	-103.9	-124.7	-143.6	361.5	-136.23
4.00	45.87	541.5	535.4	530.2	-2.37	-1.63	-1.72	30.10	-37.9	-32.9	-42.2	0.27	0.02	-78.8	-104.3	-124.7	-143.5	507.5	-138.94
4.25	46.00	553.1	546.9	541.5	-2.81	-1.92	-1.95	30.10	-38.4	-32.7	-43.8	0.34	0.03	-78.3	-103.9	-124.5	-143.6	606.7	-140.45
4.50	45.85	564.8	558.4	552.9	-3.40	-2.37	-2.33	30.09	-39.2	-32.6	-44.6	0.44	0.02	-79.2	-103.6	-124.3	-143.3	851.6	-143.37
5.00	45.29	588.1	581.3	575.5	-4.93	-3.66	-3.50	30.07	-40.4	-31.9	-45.1	0.68	0.02	-78.3	-103.0	-124.0	-143.9	1000.0	-144.63

*at 25°C unless mentioned otherwise

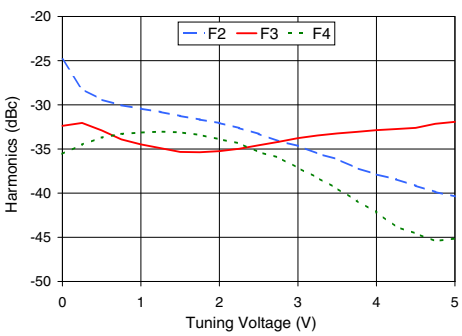
ZX95-540+
Frequency and Tuning Sensitivity



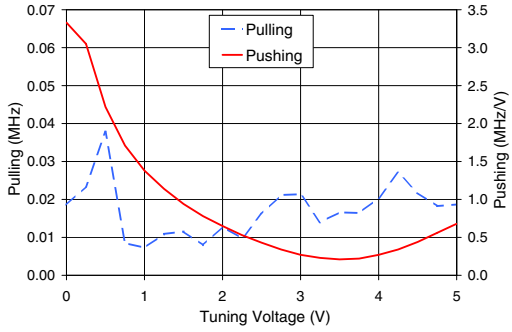
ZX95-540+
Power Output



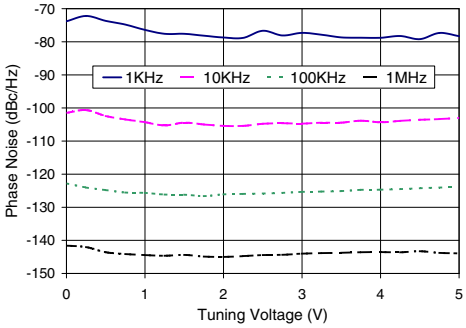
ZX95-540+
Harmonics Level



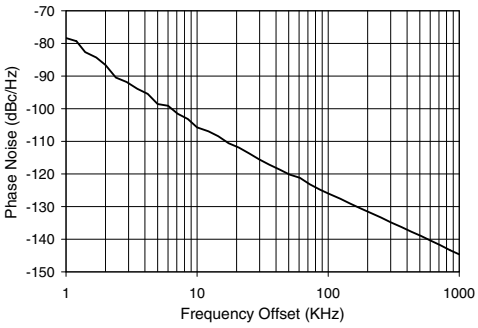
ZX95-540+
Frequency Pulling & Pushing (Vcc ± 5%)



ZX95-540+
Phase Noise Vs. Tuning Voltage



ZX95-540+
Phase Noise



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