Coaxial

Voltage Controlled Oscillator

ZX95-470+

5V Tuning for PLL IC's 435 to 470 MHz

Features

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- 0.5-5V tuning voltage range
- protected by US patent 6,790,049

Applications

- R & D
- lab
- instrumentation
- PLL circuitry
- wireless microphones

CASE STYLE: GB956

Connectors	Model
SMA	ZX95-470-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 Typ.				TUNING VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
																		Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ZX95-470+	435	470	-0.3	-89	-114	-135	-155	0.5	5	11-13	50	80	-90	-21	-13	0.4	0.2	5	16

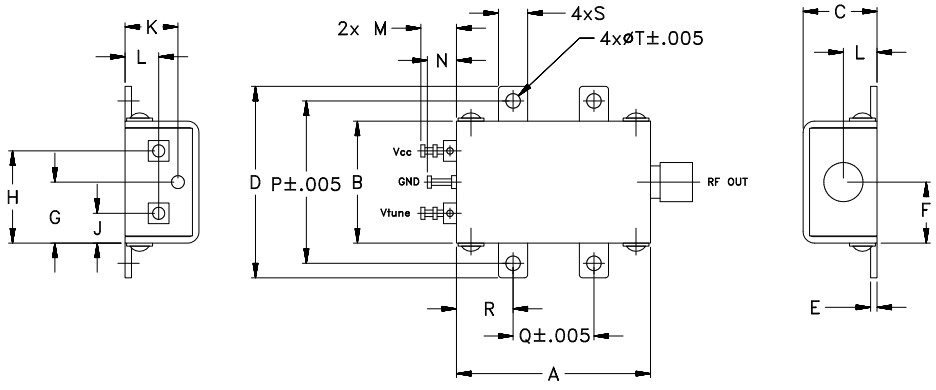
Maximum Ratings

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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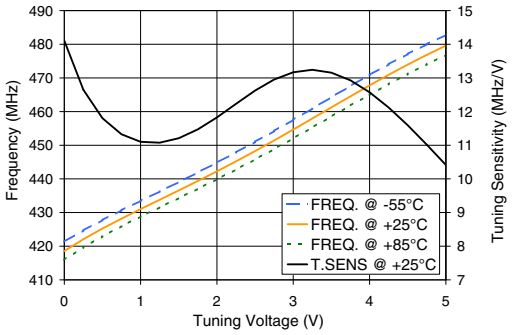
Performance Data & Curves*

ZX95-470+

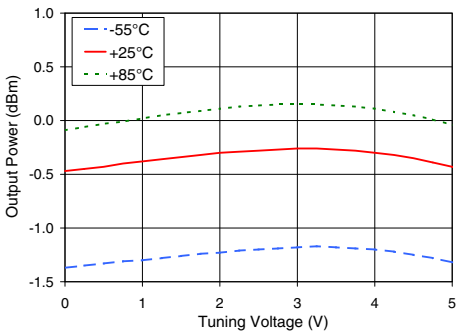
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 446 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	14.11	421.4	418.6	415.9	-1.37	-0.47	-0.09	10.62	-19.0	-31.8	-38.5	0.24	0.13	-88.1	-114.2	-135.1	-153.2	1.0	-88.26
0.50	11.80	427.8	425.2	422.9	-1.33	-0.43	-0.03	10.66	-19.9	-32.1	-37.2	0.11	0.12	-89.3	-114.6	-135.2	-154.6	2.0	-99.09
0.75	11.32	430.7	428.2	425.9	-1.31	-0.40	-0.01	10.68	-20.2	-32.0	-36.9	0.06	0.13	-91.5	-114.5	-135.2	-155.0	3.5	-103.89
1.00	11.10	433.5	431.0	428.8	-1.30	-0.38	0.02	10.69	-20.3	-31.9	-36.6	0.02	0.14	-90.2	-114.8	-134.9	-154.3	6.0	-109.10
1.25	11.08	436.3	433.8	431.6	-1.28	-0.36	0.05	10.71	-20.3	-31.9	-36.3	0.01	0.15	-91.0	-115.5	-135.2	-155.1	8.5	-113.05
1.50	11.21	439.1	436.6	434.3	-1.26	-0.34	0.07	10.72	-20.3	-32.2	-35.9	0.05	0.16	-91.9	-115.4	-135.3	-155.1	10.0	-114.28
1.75	11.47	441.9	439.4	437.1	-1.24	-0.32	0.09	10.74	-20.3	-32.3	-35.6	0.09	0.17	-90.3	-114.8	-135.2	-156.0	20.8	-121.07
2.00	11.83	444.8	442.2	439.9	-1.23	-0.30	0.11	10.76	-20.5	-32.3	-35.5	0.12	0.18	-90.0	-114.7	-135.1	-155.1	35.5	-125.92
2.25	12.23	447.9	445.2	442.8	-1.21	-0.29	0.13	10.78	-20.8	-32.3	-35.3	0.14	0.19	-89.0	-113.9	-135.2	-155.5	60.7	-130.68
2.50	12.62	451.0	448.3	445.8	-1.20	-0.28	0.14	10.80	-21.0	-32.4	-35.2	0.16	0.20	-90.2	-114.8	-135.0	-155.1	86.7	-133.81
2.75	12.95	454.2	451.4	448.9	-1.19	-0.27	0.15	10.81	-21.2	-32.5	-35.2	0.15	0.21	-88.9	-114.1	-134.9	-154.8	100.0	-135.12
3.00	13.17	457.6	454.7	452.1	-1.18	-0.26	0.15	10.83	-21.2	-32.5	-35.2	0.12	0.24	-87.6	-114.4	-134.8	-154.5	148.1	-138.88
3.25	13.24	460.9	457.9	455.3	-1.17	-0.26	0.15	10.85	-21.2	-32.4	-35.0	0.07	0.27	-88.3	-113.8	-134.4	-154.4	177.0	-140.27
3.50	13.16	464.3	461.3	458.6	-1.18	-0.27	0.14	10.86	-21.2	-32.3	-35.0	0.01	0.30	-86.9	-114.0	-134.7	-153.9	211.6	-141.69
3.75	12.93	467.6	464.5	461.8	-1.19	-0.28	0.13	10.87	-21.3	-32.4	-35.2	0.05	0.33	-87.1	-113.3	-134.5	-154.4	302.4	-144.75
4.00	12.57	470.9	467.8	465.0	-1.20	-0.30	0.11	10.88	-21.4	-32.3	-35.3	0.11	0.35	-88.1	-113.4	-134.5	-153.1	361.5	-145.92
4.25	12.12	474.1	470.9	468.1	-1.22	-0.32	0.08	10.88	-21.5	-32.1	-35.5	0.15	0.36	-87.9	-114.1	-134.3	-153.8	507.5	-149.26
4.50	11.59	477.1	473.9	471.2	-1.25	-0.35	0.05	10.88	-21.4	-31.9	-35.7	0.17	0.37	-88.2	-112.8	-134.4	-153.2	600.0	-150.91
4.75	11.02	480.0	476.8	474.1	-1.28	-0.39	0.01	10.88	-21.4	-31.9	-35.8	0.18	0.37	-86.9	-112.8	-134.1	-153.6	851.6	-153.75
5.00	10.41	482.8	479.6	476.8	-1.32	-0.43	-0.04	10.87	-21.4	-31.7	-36.0	0.17	0.37	-86.0	-113.1	-133.8	-154.0	1000.0	-154.72

*at 25°C unless mentioned otherwise

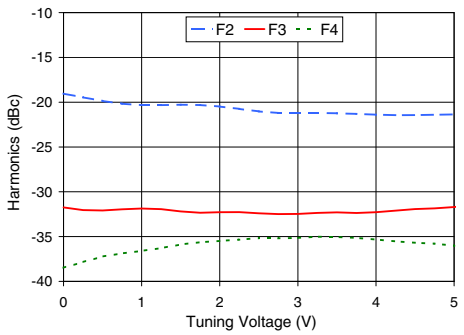
ZX95-470+
Frequency and Tuning Sensitivity



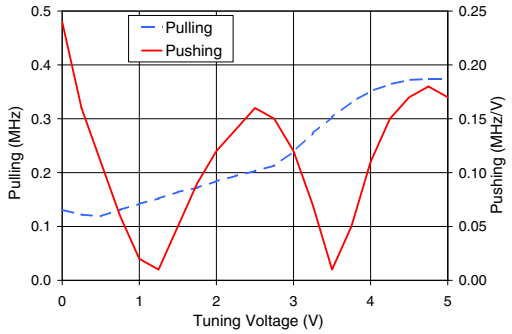
ZX95-470+
Power Output



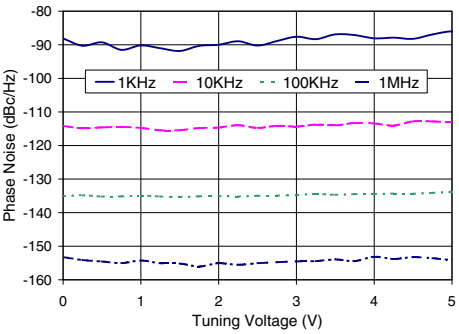
ZX95-470+
Harmonics Level



ZX95-470+
Frequency Pulling & Pushing (Vcc ± 5%)



ZX95-470+
Phase Noise Vs. Tuning Voltage



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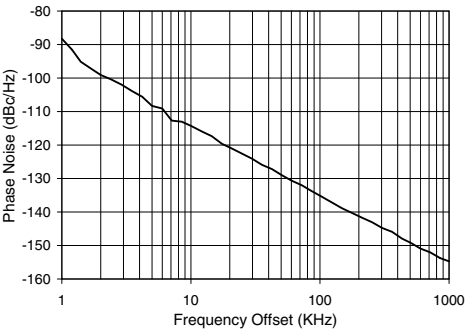
Phase Noise



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