Coaxial

Voltage Controlled Oscillator

ZX95-4650+

Linear Tuning 4130 to 4650 MHz

Features

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

Applications

- r & d
- lab
- instrumentation
- wireless communications
- point-to-point system

CASE STYLE: GB956

Connectors	Model
SMA	ZX95-4650-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					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
								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.
ZX95-4650+	4130	4650	+0.5	-69	-96	-117	-137	0.25	15	55- 75	12	85	-90	-24	-15	1.5	2.5	8	48

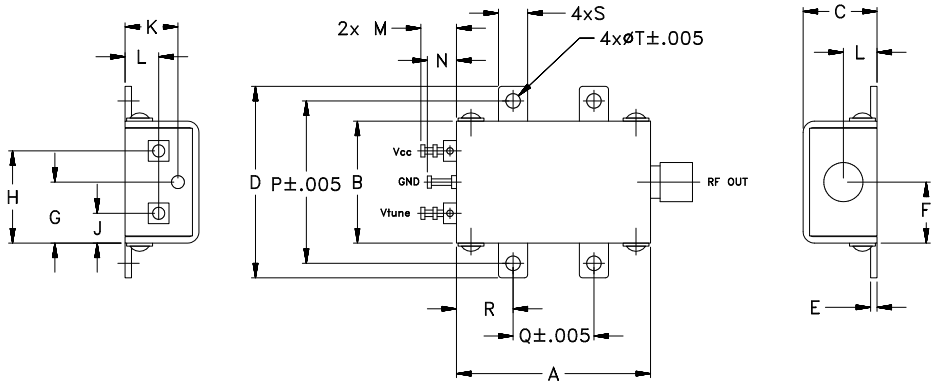
Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	8.5V
Absolute Max. Tuning Voltage (Vtune)	17.0V
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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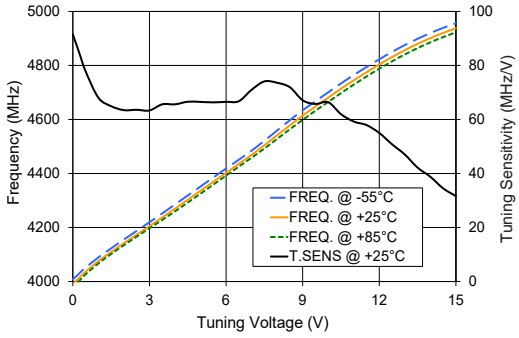
Performance Data & Curves*

ZX95-4650+

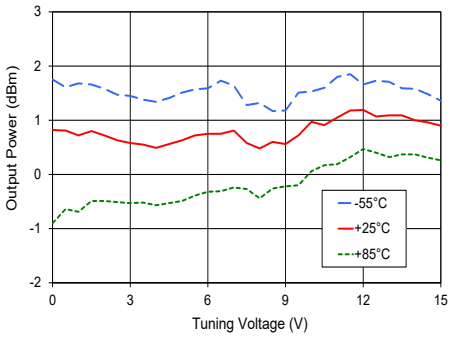
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 4390 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	91.51	4008.0	3990.9	3977.9	1.75	0.82	-0.90	40.40	-20.2	-47.0	-54.9	1.52	1.43	-71.63	-95.5	-117.1	-137.0	1.0	-71.06
0.25	84.67	4029.9	4013.8	4002.3	1.68	0.82	-0.77	40.45	-20.1	-46.3	-56.1	1.63	2.07	-72.29	-96.0	-117.2	-137.3	2.0	-79.68
1.00	68.05	4089.3	4075.6	4066.8	1.68	0.72	-0.69	40.59	-20.5	-43.4	-54.5	1.82	1.05	-72.53	-97.3	-117.6	-137.7	3.5	-85.77
2.00	63.46	4155.7	4142.0	4134.6	1.58	0.72	-0.49	40.75	-22.3	-41.3	-50.1	1.92	0.90	-71.73	-97.1	-118.3	-138.1	6.0	-91.81
2.00	63.46	4155.7	4142.0	4134.6	1.58	0.72	-0.49	40.75	-22.3	-41.3	-50.1	1.92	0.90	-71.73	-97.1	-118.3	-138.1	8.5	-96.12
2.50	63.59	4187.6	4173.8	4166.1	1.47	0.63	-0.51	40.81	-23.2	-39.8	-49.8	2.04	2.13	-72.91	-97.1	-118.0	-138.1	10.0	-97.81
4.00	65.61	4285.6	4270.0	4259.8	1.34	0.49	-0.57	40.98	-26.0	-38.9	-48.4	2.36	1.74	-70.50	-97.3	-118.8	-138.6	20.8	-105.13
5.00	66.50	4352.0	4336.1	4325.3	1.51	0.63	-0.49	41.14	-23.7	-43.0	-55.4	2.36	1.03	-70.39	-97.5	-119.1	-139.3	35.5	-110.21
6.00	66.54	4418.4	4402.6	4391.9	1.59	0.75	-0.32	41.33	-22.2	-48.1	-57.1	2.26	1.06	-70.90	-97.6	-119.7	-140.0	60.7	-115.13
7.00	71.00	4484.7	4469.2	4458.4	1.64	0.81	-0.24	41.50	-22.7	-42.0	-52.2	2.32	1.36	-69.72	-97.6	-119.4	-139.8	86.7	-118.29
7.50	74.11	4521.2	4504.7	4492.4	1.28	0.58	-0.27	41.54	-23.2	-39.3	-49.9	2.52	0.86	-68.06	-96.7	-119.0	-139.3	100.0	-119.66
8.00	73.60	4559.3	4541.8	4528.0	1.32	0.48	-0.44	41.62	-24.0	-38.0	-54.1	2.62	1.67	-69.32	-96.1	-119.0	-139.6	148.1	-123.29
9.00	67.12	4634.3	4614.5	4598.6	1.18	0.56	-0.22	41.94	-25.2	-35.8	-48.8	2.73	1.27	-68.60	-95.7	-119.0	-140.2	177.0	-124.99
10.00	66.40	4700.7	4681.0	4664.8	1.53	0.97	0.06	42.32	-26.2	-35.5	-45.9	2.60	0.87	-66.49	-94.9	-118.7	-139.9	211.6	-126.65
11.00	59.24	4764.5	4745.2	4729.0	1.80	1.05	0.19	42.68	-26.5	-37.0	-42.5	1.92	0.87	-67.59	-94.0	-117.9	-139.8	302.4	-129.59
11.50	57.93	4794.2	4774.8	4759.1	1.85	1.18	0.32	42.82	-28.0	-37.1	-42.6	1.38	0.91	-66.18	-93.4	-117.5	-140.1	361.5	-131.13
12.00	55.01	4822.9	4803.8	4787.8	1.66	1.19	0.47	42.94	-28.7	-37.3	-42.9	1.01	0.87	-66.13	-92.6	-117.8	-139.9	507.5	-133.97
13.00	47.03	4875.6	4856.7	4840.9	1.71	1.09	0.32	43.17	-29.6	-37.8	-43.7	0.43	0.95	-63.86	-91.3	-117.0	-140.2	606.7	-135.61
14.00	38.80	4919.9	4901.3	4885.7	1.58	1.00	0.37	43.30	-29.5	-37.2	-46.6	0.24	0.85	-60.45	-89.4	-116.9	-140.2	851.6	-138.56
15.00	31.62	4956.4	4937.9	4922.5	1.36	0.90	0.26	43.36	-30.0	-37.9	-49.6	0.32	0.70	-59.91	-90.4	-117.2	-139.3	1000.0	-139.96

*at 25°C unless mentioned otherwise

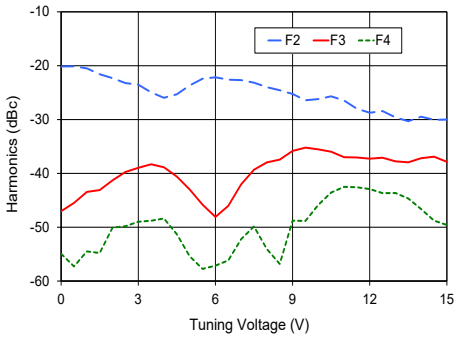
ZX95-4650+
Frequency and Tuning Sensitivity



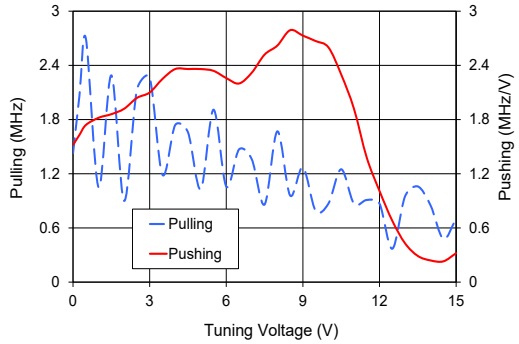
ZX95-4650+
Power Output



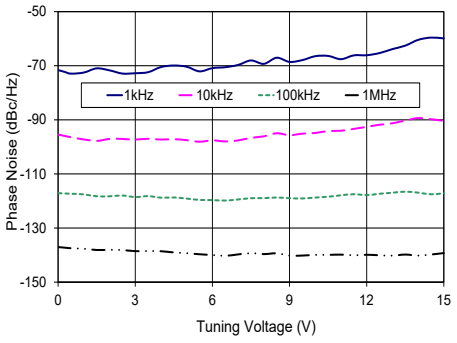
ZX95-4650+
Harmonics Level



ZX95-4650+
Frequency Pulling & Pushing (Vcc ± 5%)



ZX95-4650+
Phase Noise Vs. Tuning Voltage



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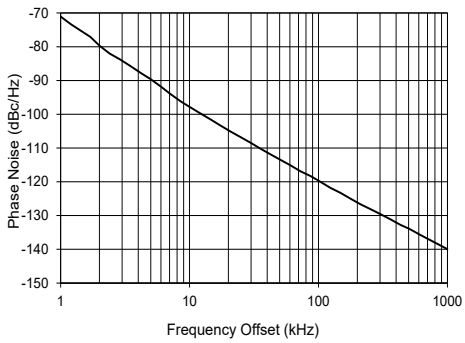
Phase Noise



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