

Voltage Controlled Oscillator

ZX95-638+

5V Tuning for PLL IC's 616 to 638 MHz

Features

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



CASE STYLE: GB956

Applications

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

Connectors	Model
SMA	ZX95-638-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.				VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	Typ.		Typ.	Typ.			Typ.	Vcc (volts)	Current (mA)
	1	10		100	1000	Min.	Max.													
ZX95-638+	616	638	+7	-88	-113	-134	-154	0.5	5	18-20	30	70	-90	-24	-18	0.7	0.6	5	25	

Maximum Ratings

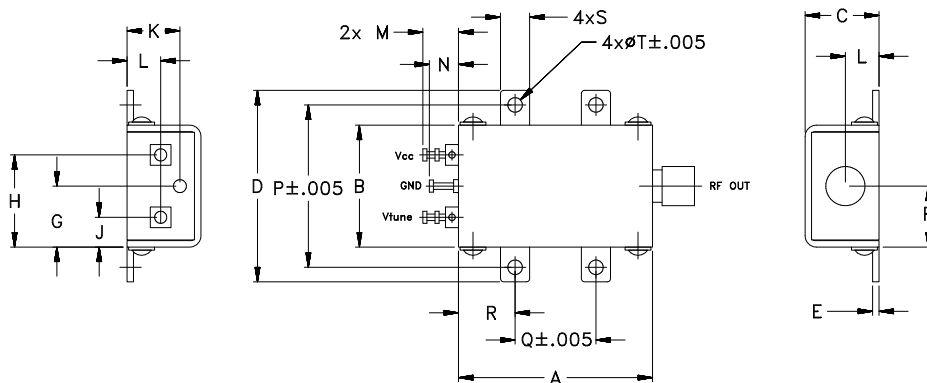
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

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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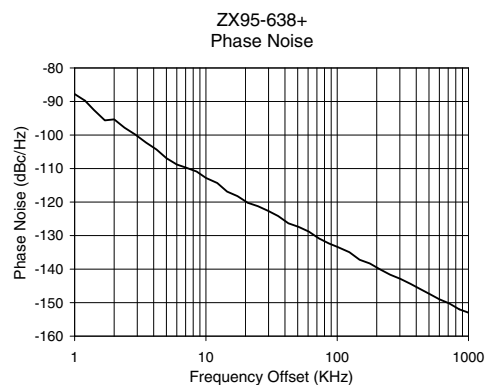
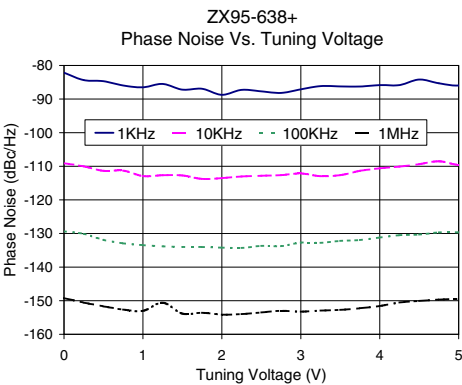
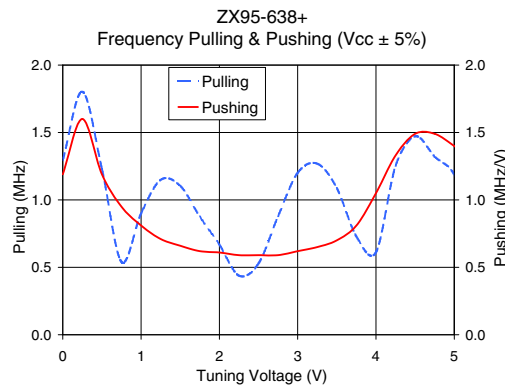
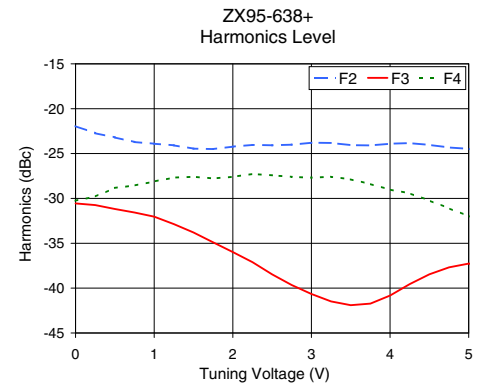
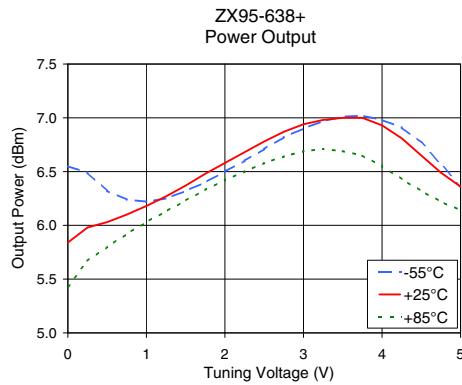
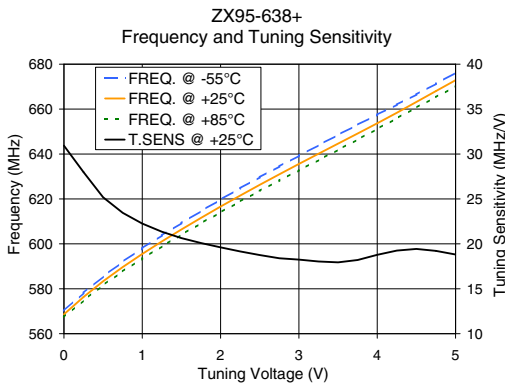


Performance Data & Curves*

ZX95-638+

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 627 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	30.94	570.2	568.6	567.3	6.55	5.84	5.43	18.77	-21.9	-30.6	-30.3	1.19	1.29	-82.2	-109.1	-129.4	-149.2	1.0	-87.77
0.50	25.18	585.5	583.4	581.6	6.32	6.03	5.80	19.09	-23.2	-31.2	-28.8	1.19	1.23	-84.7	-111.4	-131.9	-151.7	2.0	-95.32
0.75	23.46	592.0	589.7	587.7	6.24	6.10	5.92	19.17	-23.7	-31.6	-28.6	0.95	0.54	-86.0	-111.3	-132.9	-152.6	3.5	-102.26
1.00	22.26	598.1	595.5	593.5	6.22	6.18	6.03	19.26	-23.9	-32.0	-28.1	0.81	0.90	-86.5	-112.9	-133.5	-153.0	6.0	-108.79
1.25	21.35	603.8	601.1	598.9	6.25	6.27	6.13	19.34	-24.1	-32.9	-27.7	0.71	1.15	-85.5	-112.7	-133.8	-150.6	8.5	-110.88
1.50	20.64	609.3	606.4	604.1	6.32	6.37	6.23	19.43	-24.5	-33.8	-27.6	0.66	1.10	-87.2	-112.7	-134.0	-153.9	10.0	-112.80
1.75	20.09	614.6	611.6	609.2	6.40	6.48	6.33	19.53	-24.5	-34.9	-27.8	0.62	0.88	-86.9	-113.8	-134.0	-153.6	20.8	-120.22
2.00	19.61	619.7	616.6	614.1	6.50	6.58	6.42	19.62	-24.2	-36.0	-27.6	0.61	0.67	-88.7	-113.5	-134.2	-154.2	35.5	-124.16
2.25	19.16	624.8	621.5	618.9	6.60	6.68	6.50	19.71	-24.0	-37.1	-27.3	0.59	0.44	-87.3	-113.0	-134.3	-154.0	60.7	-128.81
2.50	18.75	629.7	626.3	623.6	6.71	6.78	6.58	19.78	-24.1	-38.5	-27.4	0.59	0.53	-87.7	-112.8	-133.7	-153.5	86.7	-132.38
2.75	18.40	634.5	631.0	628.2	6.82	6.87	6.64	19.84	-24.0	-39.7	-27.6	0.59	0.88	-88.2	-112.6	-133.8	-153.0	100.0	-133.35
3.00	18.24	639.2	635.6	632.8	6.90	6.94	6.69	19.88	-23.8	-40.7	-27.7	0.62	1.20	-87.1	-112.2	-132.7	-153.3	148.1	-137.21
3.25	18.04	643.9	640.1	637.3	6.97	6.98	6.71	19.89	-23.8	-41.5	-27.6	0.65	1.27	-86.2	-112.9	-132.8	-153.0	177.0	-138.31
3.50	17.94	648.5	644.7	641.9	7.01	7.00	6.69	19.89	-24.1	-41.9	-27.9	0.70	1.09	-86.2	-112.6	-132.2	-152.7	211.6	-140.05
3.75	18.20	653.0	649.1	646.5	7.02	7.00	6.65	19.87	-24.1	-41.7	-28.4	0.81	0.73	-86.3	-111.4	-132.0	-152.3	302.4	-142.89
4.00	18.78	657.5	653.7	651.2	6.98	6.93	6.55	19.84	-23.9	-40.8	-29.0	1.05	0.61	-85.9	-110.6	-131.2	-151.6	361.5	-144.38
4.25	19.25	662.0	658.4	655.9	6.91	6.81	6.43	19.82	-23.8	-39.6	-29.4	1.33	1.25	-85.9	-110.1	-130.5	-150.5	507.5	-147.47
4.50	19.44	666.5	663.2	660.7	6.77	6.65	6.32	19.83	-24.0	-38.5	-30.2	1.49	1.47	-84.2	-109.4	-130.3	-150.1	600.0	-149.00
4.75	19.22	671.3	668.1	665.4	6.57	6.49	6.22	19.85	-24.3	-37.7	-31.1	1.49	1.32	-85.3	-108.5	-129.7	-149.7	851.6	-152.01
5.00	18.81	676.2	672.9	670.0	6.36	6.36	6.14	19.89	-24.5	-37.3	-32.0	1.40	1.19	-86.0	-109.6	-129.7	-149.6	1000.0	-152.99

*at 25°C unless mentioned otherwise



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