

Coaxial

# Voltage Controlled Oscillator

ZX95-595+

5V Tuning for PLL IC's 560 to 595 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



CASE STYLE: GB956

Connectors	Model	Price	Qty.
SMA	ZX95-595-S+	\$44.95 ea.	(1-9)

## Applications

- r & d
- lab
- instrumentation
- PLL circuitry
- wireless microphones

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## Electrical Specifications

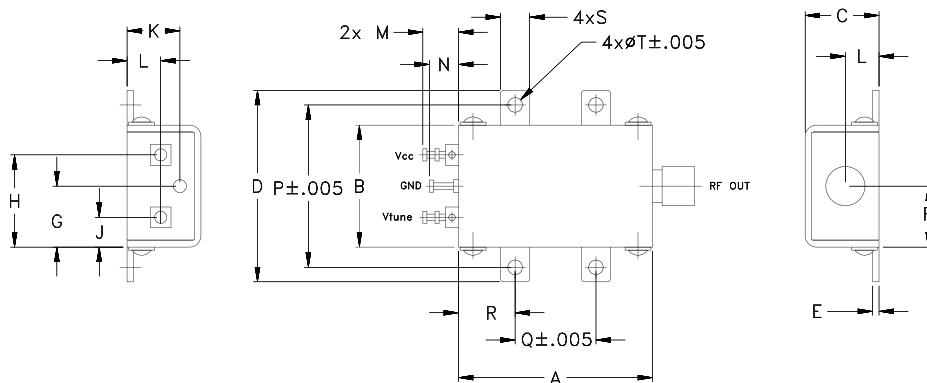
MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, KHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ. Max.			Typ.	Typ.
ZX95-595+	560	595	-0.5	-89	-112	-132	-151	0.5	5	12-13	70	80	-90	-19	-10	0.4	0.1	5	17

## 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.

## 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



For detailed performance specs & shopping online see web site

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**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

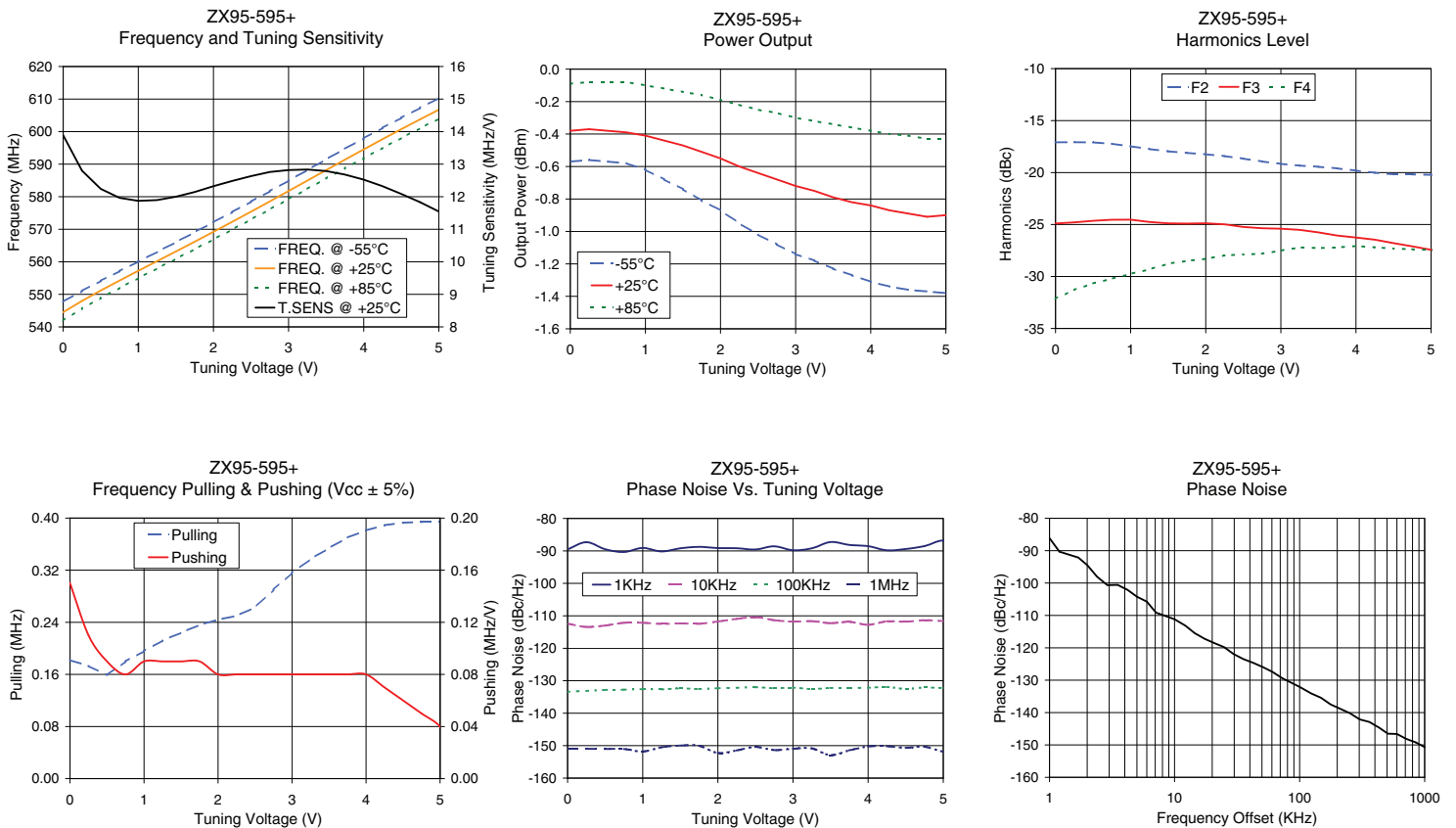
REV. OR  
M108877  
EDR-7747/12  
ZX95-595+  
RAV  
120830  
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# Performance Data & Curves\*

# ZX95-595+

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 578 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	13.89	547.7	544.5	542.0	-0.57	-0.38	-0.09	11.66	-17.1	-24.9	-32.1	0.15	0.18	-89.5	-112.4	-133.4	-150.9	1.0	-86.14
0.50	12.24	554.1	551.2	548.9	-0.57	-0.38	-0.08	11.66	-17.1	-24.6	-30.7	0.09	0.16	-89.5	-113.0	-132.8	-151.0	2.0	-94.45
0.75	11.96	557.1	554.2	552.0	-0.58	-0.39	-0.08	11.66	-17.2	-24.5	-30.2	0.08	0.18	-90.4	-112.2	-132.8	-151.0	3.5	-100.57
1.00	11.87	560.1	557.2	555.0	-0.62	-0.41	-0.10	11.66	-17.5	-24.5	-29.8	0.09	0.20	-89.1	-112.2	-132.6	-151.8	6.0	-105.73
1.25	11.90	563.0	560.2	558.0	-0.68	-0.44	-0.12	11.66	-17.7	-24.8	-29.3	0.09	0.21	-90.2	-112.5	-132.7	-150.5	8.5	-110.21
1.50	12.00	566.0	563.2	560.9	-0.74	-0.47	-0.14	11.66	-18.0	-24.9	-28.8	0.09	0.22	-89.2	-112.4	-132.4	-150.0	10.0	-111.19
1.75	12.14	569.1	566.2	563.9	-0.81	-0.51	-0.16	11.66	-18.1	-24.9	-28.5	0.09	0.24	-88.8	-112.5	-132.5	-150.0	20.8	-118.55
2.00	12.32	572.1	569.2	566.9	-0.87	-0.55	-0.19	11.67	-18.2	-24.9	-28.3	0.08	0.24	-89.1	-111.8	-132.3	-152.3	35.5	-123.49
2.25	12.48	575.3	572.3	569.9	-0.95	-0.60	-0.22	11.67	-18.4	-25.0	-28.0	0.08	0.25	-89.2	-111.0	-132.2	-151.5	60.7	-127.44
2.50	12.63	578.5	575.4	573.0	-1.02	-0.64	-0.25	11.68	-18.7	-25.2	-27.9	0.08	0.26	-89.6	-110.4	-132.0	-150.4	86.7	-130.88
2.75	12.76	581.7	578.6	576.1	-1.08	-0.68	-0.27	11.69	-18.9	-25.4	-27.8	0.08	0.29	-88.6	-111.4	-132.3	-151.4	100.0	-132.07
3.00	12.82	584.9	581.8	579.3	-1.14	-0.72	-0.30	11.71	-19.2	-25.4	-27.5	0.08	0.32	-89.8	-111.8	-132.1	-151.0	148.1	-135.42
3.25	12.84	588.2	585.0	582.4	-1.18	-0.75	-0.32	11.73	-19.3	-25.5	-27.2	0.08	0.34	-89.2	-111.7	-132.6	-150.8	177.0	-137.47
3.50	12.79	591.5	588.2	585.6	-1.23	-0.79	-0.34	11.74	-19.4	-25.8	-27.3	0.08	0.35	-87.3	-112.3	-132.2	-152.9	211.6	-138.85
3.75	12.68	594.7	591.4	588.7	-1.27	-0.82	-0.36	11.76	-19.6	-26.1	-27.2	0.08	0.37	-88.2	-111.8	-132.3	-151.5	302.4	-142.10
4.00	12.52	597.9	594.5	591.9	-1.31	-0.84	-0.38	11.78	-19.8	-26.3	-27.1	0.08	0.38	-88.5	-112.8	-132.2	-150.3	361.5	-142.92
4.25	12.32	601.1	597.7	595.0	-1.34	-0.87	-0.40	11.80	-20.0	-26.5	-27.2	0.07	0.39	-89.8	-111.7	-131.9	-150.2	507.5	-146.53
4.50	12.08	604.2	600.7	598.0	-1.36	-0.89	-0.41	11.83	-20.2	-26.8	-27.3	0.06	0.39	-89.4	-111.8	-132.5	-150.7	600.0	-146.62
4.75	11.83	607.3	603.8	601.0	-1.37	-0.91	-0.43	11.85	-20.2	-27.1	-27.4	0.05	0.39	-88.5	-111.4	-132.1	-150.3	851.6	-149.24
5.00	11.54	610.3	606.7	604.0	-1.38	-0.90	-0.43	11.87	-20.2	-27.4	-27.5	0.04	0.39	-86.8	-111.6	-132.2	-151.8	1000.0	-150.67

\*at 25°C unless mentioned otherwise



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