

Coaxial

# Voltage Controlled Oscillator

ZX95-2600+

50Ω 1650 to 2600 MHz

## The Big Deal:

- Wide Band
- Low Phase Noise
- Robust design and construction
- Rigid unibody construction



CASE STYLE: GB956

## Product Overview:

The ZX95-2600+ is a Voltage Controlled Oscillator, designed to operate from 1650 to 2600 MHz for Cable TV applications. The ZX95-2600+ built using Mini-Circuits proven unibody construction (size of 1.20" x .75" x .46") which integrates the RF connectors with the case body to shield against unwanted signals and noise.

## Key Features

Feature	Advantages
Wide Band: from 1650 to 2600MHz	The model's wide bandwidth makes it suitable for a wide variety of applications, such as: CATV, military, test equipment etc...
Low Phase Noise: -102dBc/Hz typ at 10kHz offset	Low phase noise improves system EVM (Error Vector Magnitude).
Good Pushing, 1MHz/V typ.	Provides increased immunity against noisy DC lines and improves output frequency stability vs. variations in supply voltage.
Robust design and construction	Each internal component of the ZX95-2600+ is bonded to the substrate, providing better immunity to microphonics and reduced phase hit.

### Notes

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B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
C. The parts covered by this specification document 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)



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# Voltage Controlled Oscillator

## ZX95-2600+

Wide Band 1650 to 2600 MHz

### Features

- wide band frequency range
- low phase noise
- low pushing
- protected by US patent 6,790,049

### Applications

- r & d
- lab
- wireless communications
- cable TV
- test equipment
- military



CASE STYLE: GB956

Connectors Model

SMA ZX95-2600-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.	1	10	100	1000	VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)		3 dB MODULATION BANDWIDTH (MHz)	Typ.	Typ.			Max.	Typ.
ZX95-2600+	1650	2600	+6	-75	-102	-122	-142	0.3	28	25-60	50	30	-90	-18	-	2.5	1	10	53

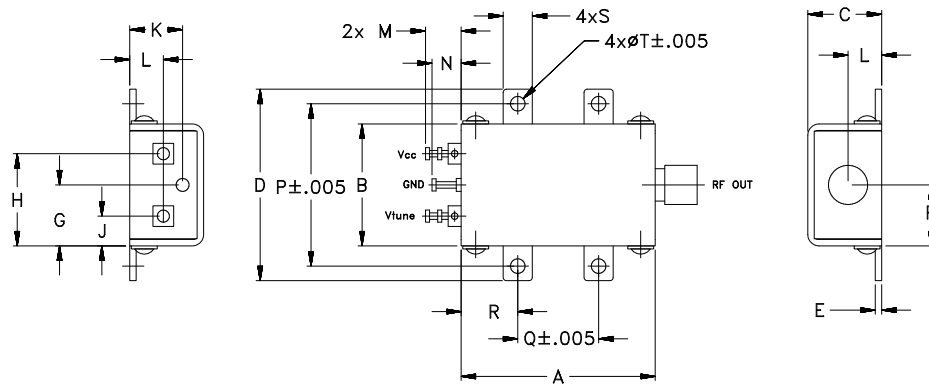
### Maximum Ratings

Operating Temperature -55°C to 85°C  
 Storage Temperature -55°C to 100°C  
 Absolute Max. Supply Voltage (Vcc) 10.5V  
 Absolute Max. Tuning Voltage (Vtune) 30.0V  
 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

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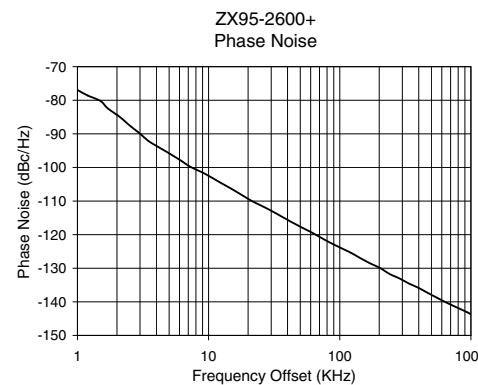
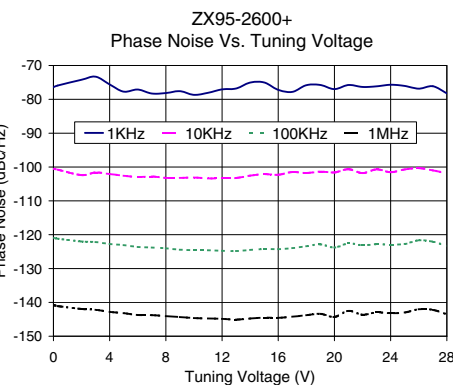
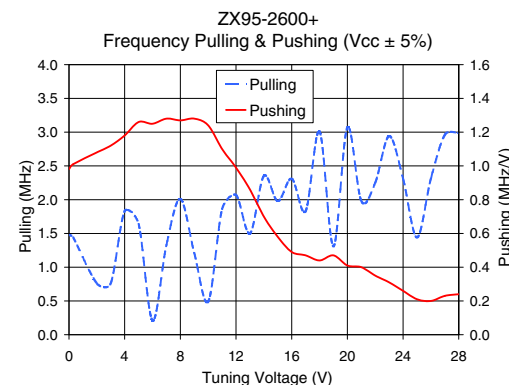
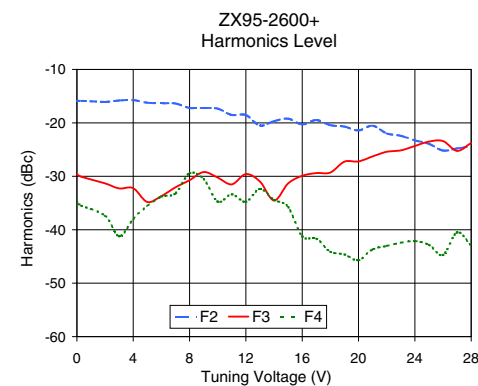
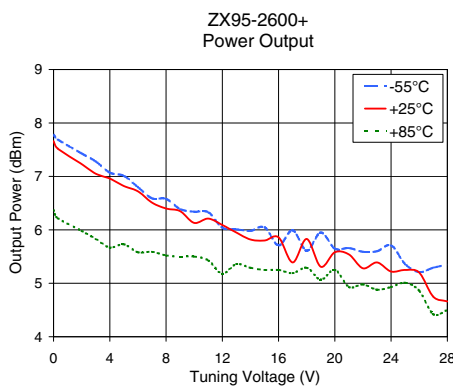
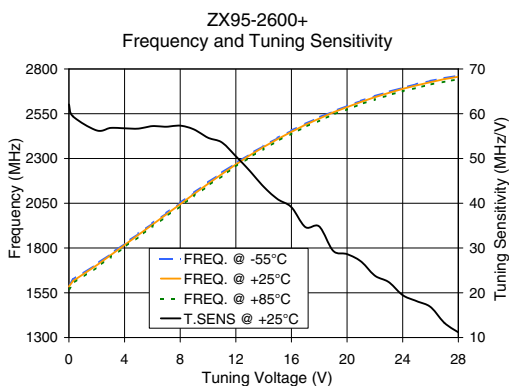
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 Page 2 of 3

# Performance Data & Curves\*

# ZX95-2600+

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 2125 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
		0.00	62.08	1593.1	1585.0	1570.1	7.78		7.66	6.37	44.67			-15.9	-29.6	-34.8	0.98		
0.30	59.38	1623.8	1616.1	1602.4	7.69	7.52	6.22	44.69	-15.9	-30.1	-35.5	1.01	1.44	-75.9	-100.8	-121.2	-141.1	2.1	-84.94
2.00	56.27	1711.2	1703.8	1691.7	7.43	7.23	5.98	44.78	-16.1	-31.3	-37.4	1.08	0.76	-74.2	-102.4	-122.0	-142.0	3.5	-92.21
3.00	56.84	1767.6	1760.1	1748.2	7.28	7.05	5.83	44.82	-15.8	-32.3	-41.2	1.12	0.76	-73.3	-101.6	-122.2	-142.2	6.1	-97.88
5.00	56.68	1881.1	1873.7	1861.9	7.01	6.82	5.73	44.98	-16.2	-34.8	-35.6	1.26	1.64	-77.7	-102.6	-123.1	-143.2	8.7	-101.25
7.00	57.09	1995.1	1987.6	1975.9	6.59	6.51	5.59	45.13	-16.4	-32.1	-33.2	1.28	1.33	-78.3	-102.8	-123.8	-143.8	10.0	-102.49
8.00	57.35	2052.5	2044.6	2033.3	6.58	6.40	5.52	45.18	-17.2	-30.7	-29.5	1.27	2.01	-78.2	-103.2	-124.0	-144.1	21.1	-109.87
10.00	54.64	2166.0	2158.5	2147.0	6.34	6.13	5.50	45.32	-17.3	-30.2	-34.7	1.24	0.49	-78.7	-103.1	-124.6	-144.6	36.1	-114.63
11.00	53.58	2220.9	2213.1	2202.3	6.33	6.21	5.43	45.36	-18.5	-31.5	-33.4	1.10	1.86	-78.1	-103.4	-124.6	-144.7	61.6	-119.43
12.00	50.51	2274.3	2266.7	2255.8	6.04	6.09	5.18	45.40	-18.5	-29.6	-34.8	0.99	2.07	-77.1	-103.3	-124.8	-144.9	86.4	-122.59
13.00	47.25	2324.3	2317.2	2305.8	6.01	5.95	5.36	45.42	-20.5	-31.0	-32.4	0.86	1.50	-76.8	-103.2	-124.8	-145.1	100.0	-123.79
14.00	43.70	2371.2	2364.5	2353.2	5.98	5.82	5.29	45.39	-19.7	-34.5	-34.4	0.70	2.35	-75.1	-102.5	-124.5	-144.8	145.0	-127.09
16.00	39.13	2456.4	2449.1	2438.2	5.71	5.86	5.25	45.33	-20.3	-29.9	-41.2	0.49	2.31	-77.2	-102.3	-124.3	-144.6	170.2	-128.54
18.00	34.80	2530.5	2522.9	2511.4	5.61	5.83	5.29	45.24	-20.4	-29.3	-44.1	0.44	3.01	-75.8	-101.8	-123.4	-143.8	203.5	-129.97
20.00	28.63	2594.0	2587.1	2574.8	5.65	5.58	5.25	45.16	-21.4	-27.2	-45.7	0.41	3.07	-77.0	-101.6	-123.8	-144.3	285.6	-133.06
22.00	23.82	2648.7	2642.7	2629.5	5.59	5.28	4.98	45.04	-22.0	-25.4	-43.0	0.35	2.25	-76.4	-101.8	-123.2	-143.6	335.4	-134.52
24.00	19.47	2694.6	2688.9	2675.3	5.71	5.22	4.93	44.94	-23.3	-24.3	-42.1	0.26	2.31	-75.7	-101.5	-122.9	-143.2	470.7	-137.38
25.00	18.14	2715.8	2708.4	2694.7	5.36	5.25	5.01	44.91	-23.9	-23.5	-42.8	0.21	1.44	-76.0	-100.7	-122.7	-143.0	562.6	-138.97
27.00	13.26	2748.9	2743.3	2729.2	5.29	4.75	4.42	44.82	-24.8	-25.2	-40.5	0.23	2.96	-76.1	-101.0	-122.1	-142.2	927.2	-143.03
28.00	11.16	2762.6	2756.6	2742.1	5.35	4.66	4.50	44.83	-24.4	-23.8	-43.0	0.24	2.99	-78.2	-101.8	-123.3	-143.5	1000.0	-143.70

\*at 25°C unless mentioned otherwise



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