

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 application. 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 1650MHz 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:<br>-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. |

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs  
& shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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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        | Price        | Qty.  |
|------------|--------------|--------------|-------|
| SMA        | ZX95-2600-S+ | \$ 49.95 ea. | (1-9) |

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

*The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.*

### Electrical Specifications

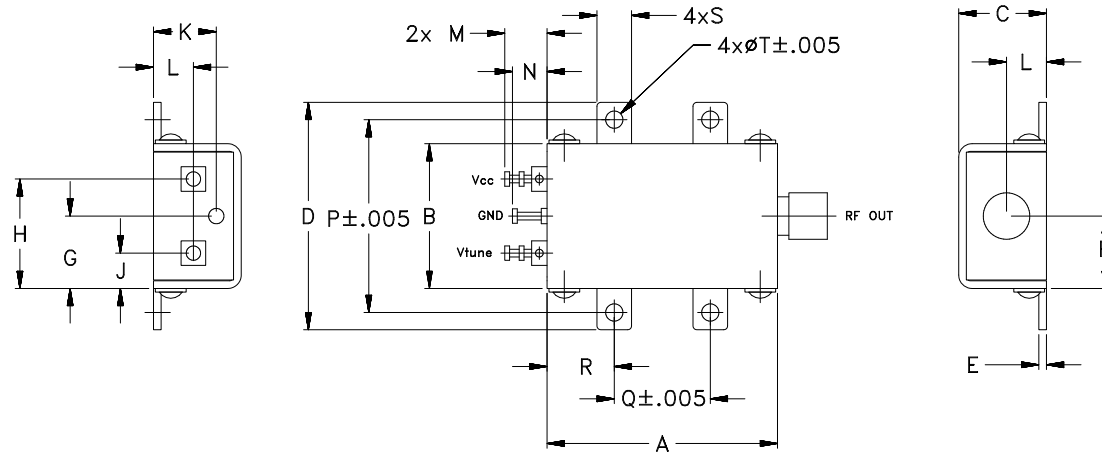
| MODEL NO.  | FREQ. (MHz) |      | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies, kHz |      |      |      | TUNING |                   |                     |               |                                 | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) |      | PULLING pk-pk @ 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.

### 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  | .45   | .57   | .18  | .33  | .21  | .22  | .18  | 1.00  | .50   | .35  | .18  | .106 | GRAM |
| 30.48 | 19.05 | 11.68 | 29.97 | 1.02 | 9.65 | 11.43 | 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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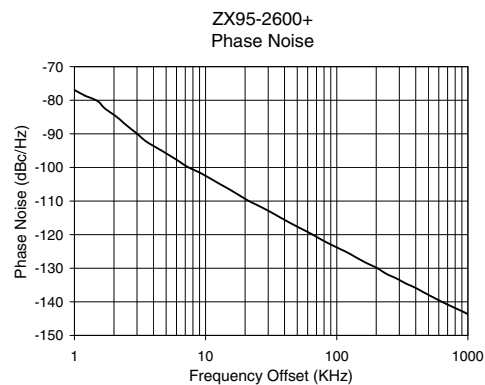
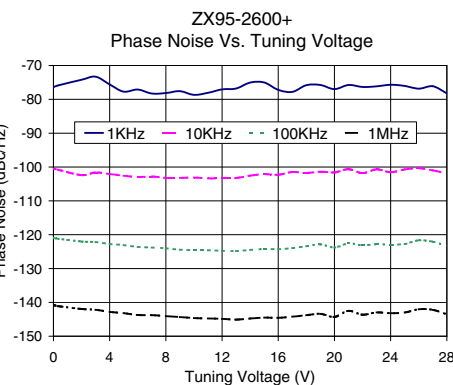
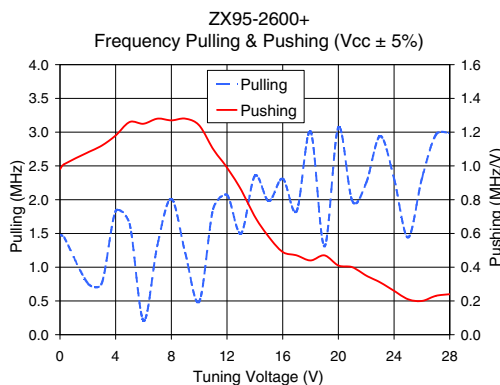
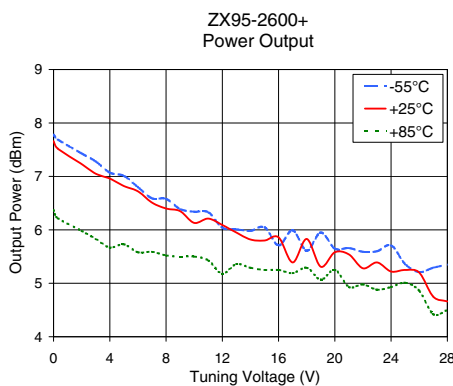
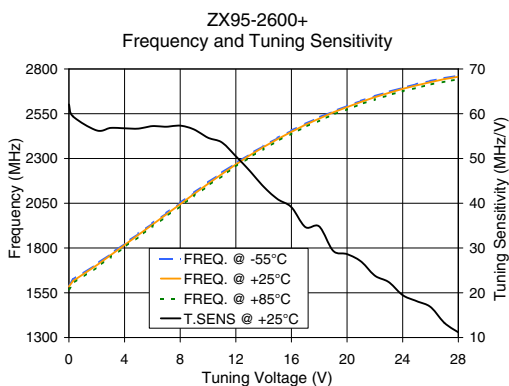
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ZX95-2600+  
RAV  
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# Performance Data & Curves\*

# 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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