

Coaxial

# Voltage Controlled Oscillator

ZX95-1570+

Linear Tuning 1250 to 1570 MHz

## Features

- low phase noise
- low pushing
- protected by US patent 6,790,049

## Applications

- r & d
- lab
- instrumentation
- wireless communications
- military radio



CASE STYLE: GB956

| Connectors | Model        | Price        | Qty.  |
|------------|--------------|--------------|-------|
| SMA        | ZX95-1570-S+ | \$ 40.95 ea. | (1-9) |

### +RoHS Compliant

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

## Electrical Specifications

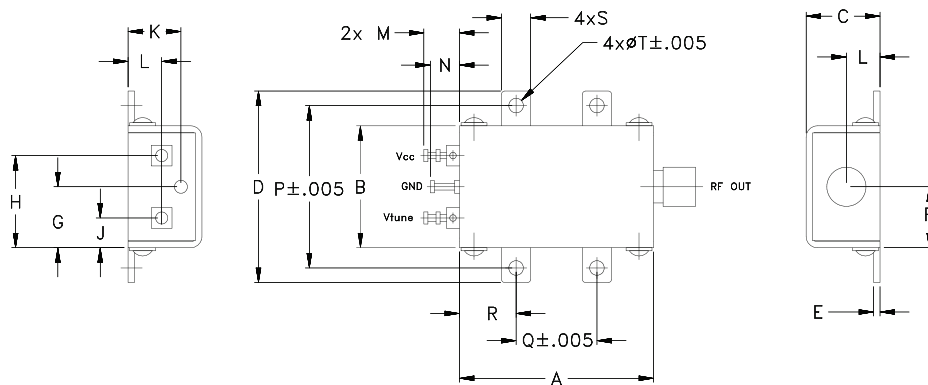
| MODEL NO.  | FREQ. (MHz) |      | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies,kHz |      |      |      | TUNING |                   |       |                       |               | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc)                 |      | PULLING pk-pk @12 dB <sub>r</sub> (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. | Max. |
|            |             |      |                    |                                                  |      |      |      |        |                   |       |                       |               |                             |                                 |      |                                         |                 |                    |      |      |      |      |
| ZX95-1570+ | 1250        | 1570 | +3.5               | -79                                              | -105 | -126 | -146 | 2      | 20                | 26-38 | 55                    | 35            | -90                         | -18                             | -10  | 1.5                                     | 0.5             | 5                  | 35   |      |      |      |

## Maximum Ratings

|                                      |                |
|--------------------------------------|----------------|
| Operating Temperature                | -55°C to 85°C  |
| Storage Temperature                  | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc)   | 5.4V           |
| Absolute Max. Tuning Voltage (Vtune) | 22.0V          |
| 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  | .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

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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REV. OR  
M1251+66  
EDR-9484/1  
ZX95-1570+  
RAV  
120909  
Page 1 of 2

# Performance Data & Curves\*

# ZX95-1570+

| V<br>TUNE | TUNE<br>SENS<br>(MHz/V) | FREQUENCY<br>(MHz) |        |        | POWER OUTPUT<br>(dBm) |       |       | Icc<br>(mA) | HARMONICS (dBc) |       |       | FREQ.<br>PUSH<br>(MHz/V) | FREQ.<br>PULL<br>(MHz) | PHASE NOISE (dBc/Hz)<br>at offsets |        |        |        | FREQ<br>OFFSET<br>(KHz) | PHASE<br>NOISE at<br>1410 MHz<br>(dBc/Hz) |
|-----------|-------------------------|--------------------|--------|--------|-----------------------|-------|-------|-------------|-----------------|-------|-------|--------------------------|------------------------|------------------------------------|--------|--------|--------|-------------------------|-------------------------------------------|
|           |                         | -55°C              | +25°C  | +85°C  | -55°C                 | +25°C | +85°C |             | F2              | F3    | F4    |                          |                        | 1kHz                               | 10kHz  | 100kHz | 1MHz   |                         |                                           |
| 0.00      | 43.26                   | 1105.2             | 1097.9 | 1091.0 | 5.23                  | 4.99  | 4.45  | 29.05       | -15.4           | -17.2 | -40.1 | 2.29                     | 0.52                   | -78.4                              | -104.1 | -125.3 | -145.2 | 1.0                     | -78.78                                    |
| 2.00      | 28.80                   | 1178.5             | 1173.6 | 1169.1 | 4.91                  | 4.69  | 4.23  | 28.89       | -16.8           | -17.2 | -39.8 | 0.89                     | 0.70                   | -77.5                              | -105.6 | -126.8 | -146.9 | 2.0                     | -87.90                                    |
| 3.00      | 27.17                   | 1207.0             | 1202.4 | 1198.1 | 4.76                  | 4.55  | 4.12  | 28.84       | -17.4           | -17.8 | -39.1 | 0.79                     | 1.61                   | -79.2                              | -105.4 | -126.9 | -147.0 | 3.5                     | -94.63                                    |
| 4.00      | 26.65                   | 1234.0             | 1229.6 | 1225.5 | 4.57                  | 4.42  | 3.93  | 28.80       | -17.5           | -18.1 | -38.1 | 0.68                     | 1.43                   | -78.1                              | -105.6 | -126.9 | -147.0 | 6.0                     | -100.50                                   |
| 5.00      | 26.46                   | 1260.5             | 1256.3 | 1252.0 | 4.49                  | 4.28  | 3.82  | 28.79       | -17.7           | -19.3 | -36.7 | 0.55                     | 0.69                   | -80.2                              | -106.0 | -127.1 | -146.9 | 8.5                     | -104.20                                   |
| 6.00      | 26.88                   | 1287.0             | 1282.7 | 1278.7 | 4.32                  | 4.03  | 3.71  | 28.80       | -17.2           | -19.0 | -34.9 | 0.39                     | 1.61                   | -80.3                              | -106.1 | -127.3 | -147.1 | 10.0                    | -105.57                                   |
| 7.00      | 27.87                   | 1314.0             | 1309.6 | 1305.5 | 4.04                  | 3.86  | 3.49  | 28.80       | -17.3           | -20.3 | -33.3 | 0.18                     | 1.11                   | -81.1                              | -106.3 | -127.5 | -147.2 | 20.8                    | -112.79                                   |
| 8.00      | 29.07                   | 1342.0             | 1337.5 | 1333.1 | 3.83                  | 3.72  | 3.29  | 28.82       | -16.9           | -21.3 | -32.2 | 0.02                     | 0.63                   | -79.0                              | -106.1 | -127.4 | -147.1 | 35.5                    | -117.68                                   |
| 9.00      | 30.50                   | 1371.5             | 1366.5 | 1361.9 | 3.65                  | 3.46  | 3.17  | 28.85       | -16.8           | -22.6 | -30.6 | 0.21                     | 1.84                   | -78.8                              | -106.2 | -127.3 | -147.0 | 60.7                    | -122.01                                   |
| 10.00     | 32.56                   | 1402.5             | 1397.0 | 1392.3 | 3.29                  | 3.16  | 2.94  | 28.86       | -17.0           | -23.7 | -29.6 | 0.40                     | 0.18                   | -79.3                              | -105.8 | -127.1 | -146.9 | 86.7                    | -125.70                                   |
| 11.00     | 34.35                   | 1435.4             | 1429.6 | 1424.4 | 2.98                  | 3.00  | 2.66  | 28.86       | -17.8           | -25.0 | -29.4 | 0.50                     | 1.66                   | -78.3                              | -105.5 | -126.8 | -146.6 | 100.0                   | -126.95                                   |
| 12.00     | 35.72                   | 1470.2             | 1463.9 | 1458.4 | 2.68                  | 2.65  | 2.45  | 28.85       | -19.0           | -26.2 | -29.6 | 0.42                     | 1.04                   | -76.8                              | -105.3 | -126.5 | -146.7 | 148.1                   | -130.37                                   |
| 13.00     | 36.87                   | 1506.4             | 1499.7 | 1494.0 | 2.34                  | 2.38  | 2.19  | 28.81       | -20.4           | -27.4 | -29.2 | 0.10                     | 1.40                   | -77.4                              | -104.9 | -126.3 | -146.3 | 177.0                   | -131.95                                   |
| 14.00     | 36.91                   | 1543.3             | 1536.5 | 1530.7 | 2.11                  | 2.23  | 1.94  | 28.77       | -22.0           | -28.4 | -29.6 | 0.46                     | 1.02                   | -78.4                              | -104.3 | -126.0 | -145.8 | 211.6                   | -133.47                                   |
| 15.00     | 36.32                   | 1580.4             | 1573.4 | 1567.6 | 1.90                  | 1.93  | 1.68  | 28.72       | -22.7           | -29.5 | -30.1 | 1.15                     | 1.80                   | -76.2                              | -104.0 | -125.8 | -145.9 | 302.4                   | -136.54                                   |
| 16.00     | 35.38                   | 1616.8             | 1609.8 | 1604.1 | 1.65                  | 1.67  | 1.43  | 28.67       | -22.8           | -30.6 | -30.2 | 1.80                     | 1.09                   | -75.4                              | -103.5 | -125.4 | -145.5 | 361.5                   | -138.06                                   |
| 17.00     | 33.48                   | 1652.1             | 1645.1 | 1639.3 | 1.41                  | 1.48  | 1.07  | 28.61       | -23.2           | -32.0 | -31.0 | 2.29                     | 1.52                   | -76.4                              | -103.1 | -125.1 | -145.5 | 507.5                   | -141.17                                   |
| 18.00     | 31.47                   | 1685.8             | 1678.6 | 1673.0 | 1.26                  | 1.19  | 0.86  | 28.57       | -23.4           | -32.4 | -30.5 | 2.58                     | 1.27                   | -75.0                              | -102.7 | -124.8 | -145.1 | 606.7                   | -142.66                                   |
| 19.00     | 29.37                   | 1717.4             | 1710.1 | 1704.5 | 1.10                  | 1.01  | 0.65  | 28.53       | -23.4           | -32.3 | -30.8 | 2.76                     | 1.36                   | -73.5                              | -102.1 | -124.5 | -144.9 | 851.6                   | -145.46                                   |
| 20.00     | 26.65                   | 1746.7             | 1739.5 | 1733.6 | 0.91                  | 0.94  | 0.37  | 28.50       | -23.2           | -32.4 | -31.0 | 2.93                     | 1.94                   | -74.2                              | -101.8 | -124.4 | -144.4 | 1000.0                  | -146.43                                   |

\*at 25°C unless mentioned otherwise

