

2X Fundamental

Voltage Controlled Oscillator

ZX95-6840C-S+

Frequency Doubling 6740 to 6840 MHz

Features

- frequency based on multiplication of carrier frequency
- low phase noise
- low pushing
- low pulling
- 5V tuning voltage range
- protected by US patent 6,790,049

Applications

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



Generic photo used for illustration purposes only
CASE STYLE: GB956

| Connectors | Model |
|------------|---------------|
| SMA | ZX95-6840C-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 | | | | TUNING | | | | | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | DC OPERATING POWER | |
|---------------|-------------|------|--------------------|---------------------------------------|-----|------|------|-------------------|---------------------|---------------|---------------------------------|------|-----------------------------|-----------------|------|-----|-----------------------------|-----------------|--------------------|--------------|
| | F | | | dBc/Hz SSB at offset frequencies, kHz | | | | VOLTAGE RANGE (V) | SENSITIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | Max. | | F0.5 | F1.5 | F2 | | | Vcc (volts) | Current (mA) |
| | Min. | Max. | | Typ. | 1 | 10 | 100 | | | | | | | | | | | | | |
| ZX95-6840C-S+ | 6740 | 6840 | +1 | -69 | -95 | -119 | -139 | 0.5 | 4.5 | 85-100 | 15 | 125 | -90 | -15 | -12 | -15 | 1 | 6 | 5 | 38 |

Maximum Ratings

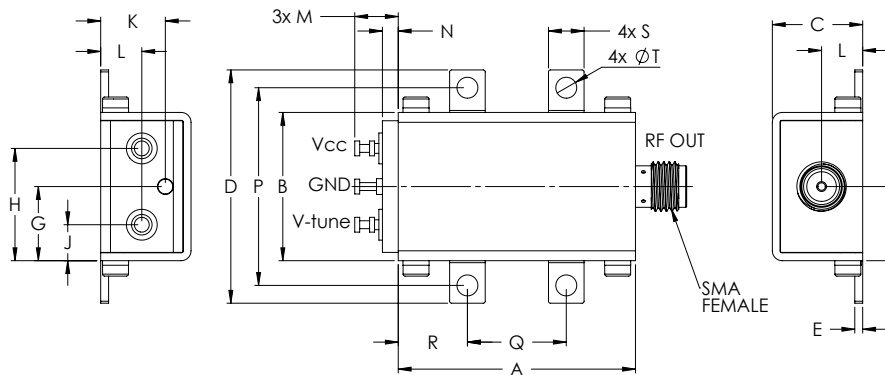
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 7V |
| Absolute Max. Tuning Voltage (Vtune) | 7V |
| All specifications | 50 ohm system |

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 | .08 | 1.00 | .50 | .35 | .18 | .106 | grams |
| 30.48 | 19.15 | 11.61 | 30.07 | 1.02 | 9.53 | 9.53 | 14.43 | 4.62 | 8.31 | 5.28 | 5.59 | 2.03 | 25.40 | 12.70 | 8.89 | 4.57 | 2.69 | 35.0 |

Notes

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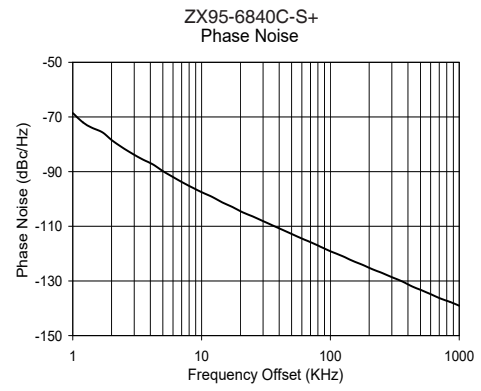
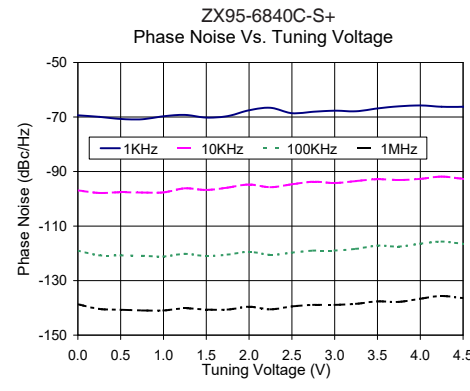
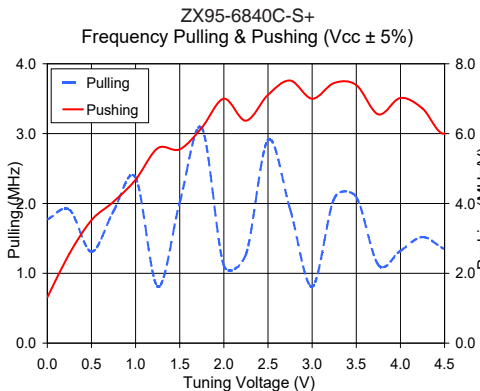
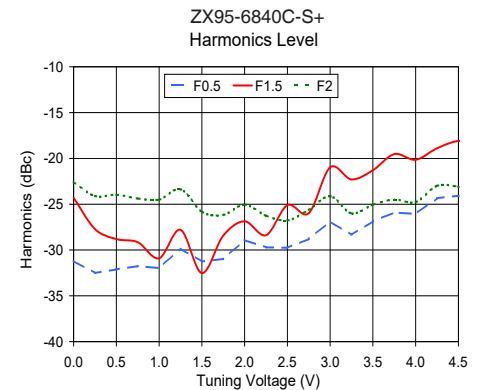
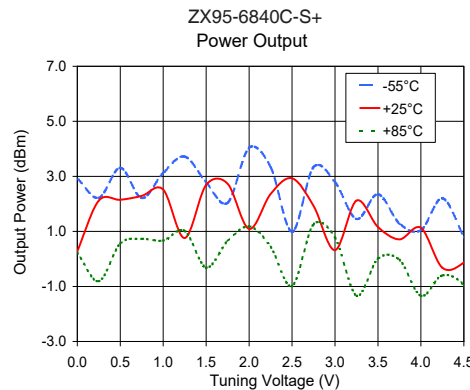
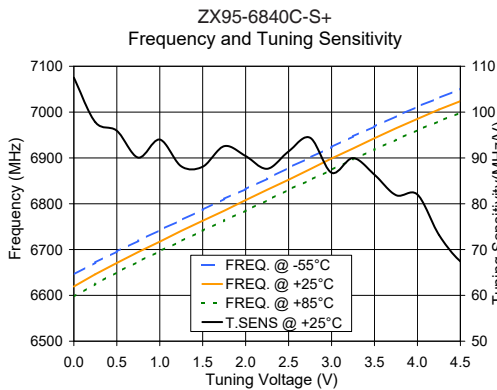
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Performance Data & Curves*

ZX95-6840C-S+

| 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 6790 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|-------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F0.5 | F1.5 | F2 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 107.5 | 6645.7 | 6619.4 | 6596.9 | 2.92 | 0.28 | 0.23 | 27.59 | -31.2 | -24.3 | -22.6 | 1.31 | 1.77 | -69.4 | -96.9 | -119.0 | -138.7 | 1.0 | -68.19 |
| 0.25 | 97.8 | 6671.7 | 6646.2 | 6625.1 | 2.22 | 2.12 | -0.81 | 27.86 | -32.5 | -27.7 | -24.1 | 2.56 | 1.91 | -69.9 | -97.9 | -120.7 | -140.4 | 2.0 | -77.16 |
| 0.50 | 95.9 | 6695.7 | 6670.7 | 6650.1 | 3.31 | 2.15 | 0.56 | 28.00 | -32.1 | -28.8 | -24.0 | 3.52 | 1.31 | -70.7 | -97.6 | -120.8 | -140.7 | 3.5 | -84.09 |
| 0.75 | 90.1 | 6719.0 | 6694.7 | 6673.4 | 2.21 | 2.29 | 0.73 | 28.18 | -31.8 | -29.2 | -24.4 | 4.05 | 1.89 | -70.8 | -97.7 | -120.9 | -141.0 | 6.0 | -89.65 |
| 1.00 | 94.0 | 6742.3 | 6717.2 | 6696.5 | 3.12 | 2.52 | 0.67 | 28.30 | -32.0 | -30.9 | -24.5 | 4.68 | 2.37 | -69.7 | -97.6 | -121.2 | -141.0 | 8.5 | -92.73 |
| 1.25 | 88.2 | 6764.2 | 6740.7 | 6718.5 | 3.72 | 0.76 | 1.02 | 28.40 | -29.8 | -27.8 | -23.4 | 5.58 | 0.81 | -69.2 | -96.2 | -120.2 | -140.2 | 10.0 | -94.37 |
| 1.50 | 88.1 | 6786.8 | 6762.7 | 6741.1 | 2.78 | 2.69 | -0.31 | 28.61 | -31.3 | -32.5 | -25.8 | 5.55 | 2.01 | -70.2 | -96.8 | -121.0 | -140.6 | 20.8 | -103.69 |
| 1.75 | 92.6 | 6810.6 | 6784.8 | 6763.3 | 2.04 | 2.73 | 0.65 | 28.70 | -31.0 | -28.4 | -26.2 | 6.17 | 3.08 | -69.7 | -95.9 | -120.4 | -140.6 | 35.5 | -109.21 |
| 2.00 | 90.4 | 6831.8 | 6807.9 | 6784.9 | 4.04 | 1.09 | 1.18 | 28.78 | -28.9 | -26.9 | -25.1 | 7.00 | 1.11 | -67.5 | -94.8 | -119.4 | -139.6 | 60.7 | -114.03 |
| 2.25 | 87.6 | 6854.6 | 6830.5 | 6807.3 | 3.34 | 2.36 | 0.44 | 29.00 | -29.7 | -28.4 | -26.3 | 6.37 | 1.27 | -66.6 | -95.7 | -120.5 | -140.6 | 86.7 | -117.42 |
| 2.50 | 91.4 | 6878.5 | 6852.4 | 6830.6 | 0.99 | 2.93 | -0.99 | 29.02 | -29.8 | -25.1 | -26.8 | 7.11 | 2.91 | -68.6 | -94.7 | -119.7 | -139.5 | 100.0 | -118.85 |
| 2.75 | 94.4 | 6900.6 | 6875.3 | 6851.6 | 3.33 | 1.93 | 1.25 | 29.07 | -28.8 | -26.0 | -25.6 | 7.52 | 1.92 | -68.1 | -93.7 | -119.0 | -138.9 | 148.1 | -122.24 |
| 3.00 | 86.8 | 6923.7 | 6898.9 | 6873.9 | 2.79 | 0.32 | 0.78 | 29.24 | -26.9 | -21.0 | -24.1 | 7.00 | 0.81 | -67.7 | -94.2 | -119.0 | -138.9 | 177.0 | -123.84 |
| 3.25 | 90.0 | 6947.0 | 6920.6 | 6896.9 | 1.45 | 2.12 | -1.33 | 29.29 | -28.4 | -22.3 | -26.0 | 7.45 | 2.07 | -67.9 | -93.5 | -118.4 | -138.5 | 302.4 | -128.66 |
| 3.50 | 86.3 | 6968.5 | 6943.0 | 6918.2 | 2.35 | 1.16 | 0.01 | 29.41 | -26.9 | -21.3 | -25.1 | 7.39 | 2.09 | -66.9 | -92.8 | -117.2 | -137.6 | 361.5 | -130.23 |
| 3.75 | 81.9 | 6990.8 | 6964.6 | 6939.6 | 1.29 | 0.71 | -0.03 | 29.56 | -25.9 | -19.5 | -24.5 | 6.55 | 1.12 | -66.1 | -93.1 | -117.5 | -137.8 | 507.5 | -133.12 |
| 4.00 | 82.0 | 7011.7 | 6985.1 | 6960.7 | 1.04 | 1.13 | -1.34 | 29.57 | -26.1 | -20.2 | -24.8 | 7.02 | 1.32 | -65.8 | -92.7 | -116.4 | -136.6 | 606.7 | -134.68 |
| 4.25 | 73.2 | 7030.9 | 7005.6 | 6979.8 | 2.20 | -0.32 | -0.60 | 29.69 | -24.3 | -18.9 | -23.0 | 6.72 | 1.52 | -66.2 | -91.9 | -115.7 | -135.7 | 851.6 | -137.31 |
| 4.50 | 67.4 | 7050.2 | 7023.9 | 6998.7 | 0.79 | -0.13 | -0.96 | 29.79 | -24.1 | -18.1 | -23.1 | 6.00 | 1.35 | -66.2 | -92.6 | -116.4 | -136.4 | 1000.0 | -138.79 |

*at 25°C unless mentioned otherwise



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