NON-CATALOG

*Coaxial*

# Voltage Controlled Oscillator ZX95-3063C-S+

## Linear Tuning 2812 to 3063 MHz

*Generic photo used for illustration purposes only*

CASE STYLE: GB956

| Connectors | Model |
|---|---|
| **SMA** | ZX95-3063C-S+ |

### Features

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

### Applications

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

***+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 Typ. | | | | TUNING VOLTAGE RANGE (V) | | SENSI-TIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | PULLING pk-pk @12 dBr (MHz) | PUSHING (MHz/V) | DC OPERATING POWER Vcc (volts) | DC OPERATING POWER Current (mA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | Typ. | 1 | 10 | 100 | 1000 | Min. | Max. | Typ. | Typ. | Typ. | Typ. | Typ. | Max. | Typ. | Typ. | | Max. |
| ZX95-3063C-S+ | 2812 | 3063 | +0.2 | -78 | -104 | -124 | -144 | 1 | 16 | 28-38 | 3 | 100 | -90 | -20 | -14 | 1.5 | 0.5 | 8 | 35 |

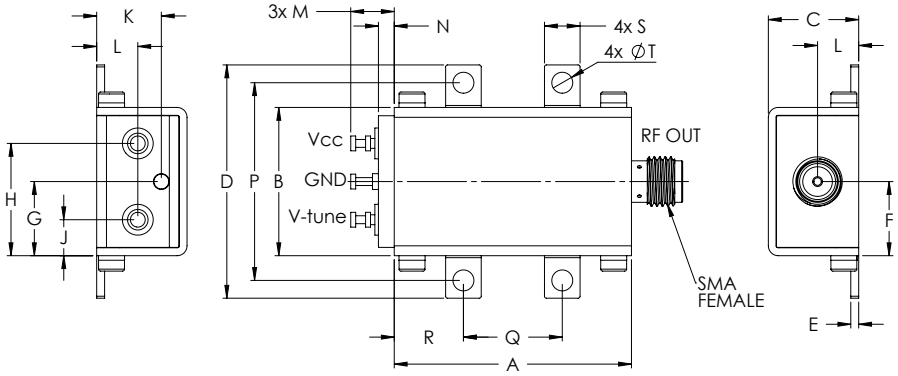
### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 8.5V |
| Absolute Max. Tuning Voltage (Vtune) | 18.0V |
| 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** | **.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

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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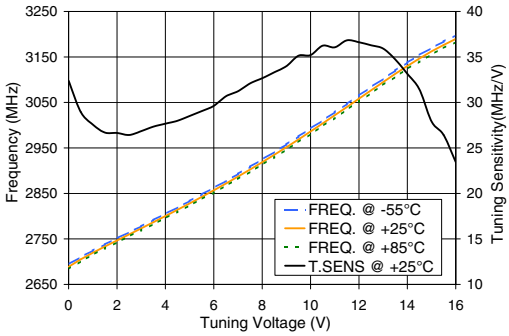
# Performance Data & Curves*

# ZX95-3063C-S+

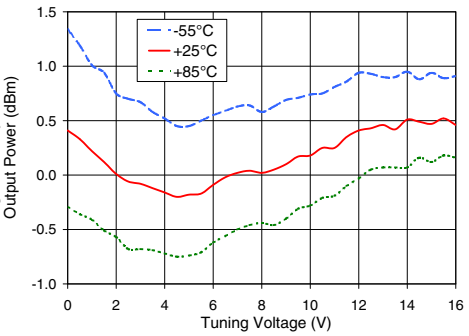
| V TUNE | TUNE SENS (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | | Icc (mA) | HARMONICS (dBc) | | | FREQ. PUSH (MHz/V) | FREQ. PULL (MHz) | PHASE NOISE (dBc/Hz) at offsets | | | | FREQ OFFSET (KHz) | PHASE NOISE at 2938 MHz (dBc/Hz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 32.38 | 2694.3 | 2688.8 | 2683.9 | 1.34 | 0.41 | -0.29 | 28.53 | -18.8 | -25.9 | -50.0 | 0.10 | 1.12 | -79.3 | -104.3 | -124.7 | -144.5 | 1.0 | -79.43 |
| 0.50 | 28.97 | 2710.0 | 2705.0 | 2700.7 | 1.19 | 0.33 | -0.36 | 28.48 | -19.2 | -24.9 | -49.9 | 0.03 | 1.65 | -79.9 | -104.4 | -125.0 | -144.6 | 2.0 | -87.64 |
| 1.00 | 27.57 | 2724.4 | 2719.5 | 2715.2 | 1.01 | 0.22 | -0.41 | 28.42 | -19.0 | -24.0 | -49.0 | 0.12 | 1.54 | -80.7 | -104.1 | -124.5 | -144.1 | 3.5 | -94.09 |
| 1.50 | 26.69 | 2737.9 | 2733.3 | 2729.1 | 0.94 | 0.12 | -0.51 | 28.38 | -19.0 | -24.7 | -50.1 | 0.22 | 1.07 | -80.8 | -104.2 | -125.1 | -145.5 | 6.0 | -98.90 |
| 3.00 | 26.84 | 2777.8 | 2773.2 | 2769.0 | 0.67 | -0.08 | -0.68 | 28.29 | -19.7 | -26.9 | -42.3 | 0.38 | 1.34 | -80.1 | -104.3 | -124.8 | -145.3 | 8.5 | -102.51 |
| 4.00 | 27.67 | 2805.2 | 2800.2 | 2795.8 | 0.52 | -0.16 | -0.72 | 28.23 | -20.0 | -28.5 | -43.4 | 0.45 | 1.45 | -80.6 | -103.7 | -124.8 | -144.5 | 10.0 | -103.96 |
| 4.50 | 27.98 | 2819.2 | 2814.1 | 2809.6 | 0.45 | -0.20 | -0.75 | 28.22 | -20.1 | -28.9 | -40.5 | 0.47 | 1.02 | -80.5 | -103.4 | -124.5 | -144.8 | 20.8 | -111.12 |
| 5.00 | 28.51 | 2833.3 | 2828.1 | 2823.5 | 0.45 | -0.18 | -0.74 | 28.22 | -20.1 | -30.0 | -40.7 | 0.48 | 0.81 | -79.5 | -104.0 | -124.8 | -144.6 | 35.5 | -115.86 |
| 6.00 | 29.62 | 2862.4 | 2856.8 | 2852.1 | 0.55 | -0.09 | -0.62 | 28.22 | -20.2 | -30.9 | -41.4 | 0.51 | 1.72 | -80.2 | -104.2 | -124.8 | -144.6 | 60.7 | -120.84 |
| 7.50 | 32.09 | 2908.5 | 2902.6 | 2897.5 | 0.64 | 0.04 | -0.46 | 28.19 | -20.0 | -32.2 | -44.3 | 0.56 | 0.75 | -80.1 | -103.8 | -124.6 | -144.6 | 86.7 | -123.67 |
| 8.50 | 33.31 | 2941.1 | 2935.0 | 2929.7 | 0.63 | 0.05 | -0.46 | 28.19 | -20.9 | -33.8 | -47.2 | 0.58 | 1.82 | -80.9 | -103.8 | -124.6 | -144.1 | 100.0 | -124.79 |
| 9.00 | 33.99 | 2957.9 | 2951.6 | 2946.2 | 0.69 | 0.10 | -0.40 | 28.18 | -20.9 | -34.4 | -47.7 | 0.60 | 1.62 | -80.1 | -103.6 | -124.5 | -144.9 | 148.1 | -128.40 |
| 10.50 | 36.24 | 3010.5 | 3003.8 | 2998.1 | 0.75 | 0.25 | -0.21 | 28.18 | -20.5 | -34.4 | -50.4 | 0.62 | 1.71 | -78.6 | -103.6 | -124.6 | -144.2 | 177.0 | -129.73 |
| 11.50 | 36.82 | 3046.8 | 3039.9 | 3034.0 | 0.86 | 0.35 | -0.10 | 28.18 | -20.2 | -35.1 | -48.8 | 0.62 | 1.79 | -78.0 | -103.3 | -124.6 | -144.6 | 211.6 | -131.25 |
| 12.00 | 36.62 | 3065.3 | 3058.4 | 3052.2 | 0.94 | 0.41 | -0.03 | 28.17 | -20.2 | -34.4 | -51.2 | 0.61 | 1.02 | -78.0 | -103.7 | -124.7 | -144.1 | 302.4 | -134.89 |
| 12.50 | 36.28 | 3083.8 | 3076.7 | 3070.5 | 0.93 | 0.43 | 0.05 | 28.17 | -20.0 | -34.9 | -53.5 | 0.59 | 1.81 | -77.7 | -102.8 | -124.3 | -143.8 | 361.5 | -136.17 |
| 13.50 | 34.73 | 3120.3 | 3112.8 | 3106.3 | 0.90 | 0.42 | 0.07 | 28.17 | -19.5 | -34.4 | -54.3 | 0.48 | 1.91 | -77.7 | -103.1 | -124.0 | -143.4 | 507.5 | -139.09 |
| 14.50 | 31.42 | 3154.4 | 3146.7 | 3140.1 | 0.88 | 0.49 | 0.16 | 28.17 | -19.1 | -34.6 | -52.0 | 0.29 | 1.76 | -76.3 | -102.8 | -124.1 | -143.7 | 606.7 | -140.56 |
| 15.50 | 26.42 | 3184.2 | 3176.4 | 3169.7 | 0.89 | 0.52 | 0.18 | 28.18 | -18.7 | -34.9 | -56.0 | 0.16 | 2.27 | -77.2 | -102.6 | -123.9 | -143.9 | 712.4 | -141.98 |
| 16.00 | 23.45 | 3197.5 | 3189.6 | 3182.5 | 0.91 | 0.46 | 0.16 | 28.16 | -18.8 | -34.7 | -55.7 | 0.18 | 1.98 | -76.3 | -102.0 | -123.1 | -143.3 | 1000.0 | -144.98 |

*at 25°C unless mentioned otherwise

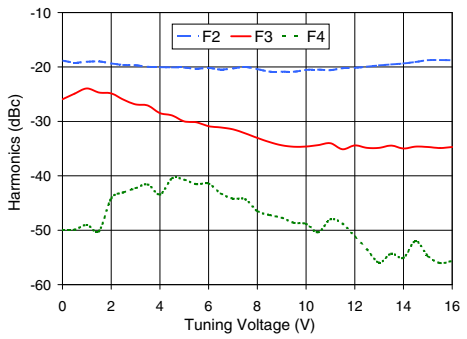
ZX95-3063C-S+
Frequency and Tuning Sensitivity



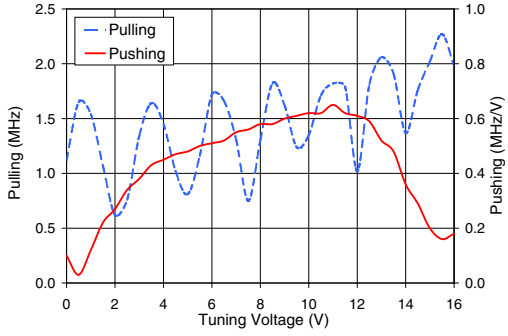

ZX95-3063C-S+
Power Output



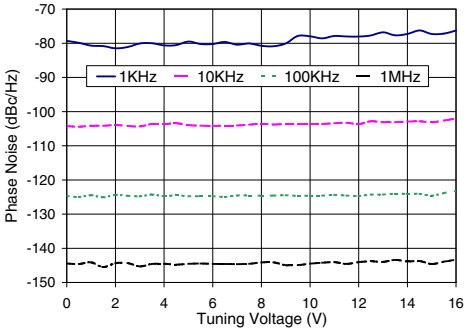

ZX95-3063C-S+
Harmonics Level



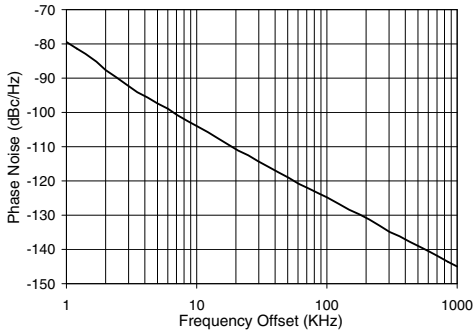

ZX95-3063C-S+
Frequency Pulling & Pushing (Vcc ± 5%)




ZX95-3063C-S+
Phase Noise Vs. Tuning Voltage




ZX95-3063C-S+
Phase Noise

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