

# 3.0V Ultra Miniature SMD TCXO/VCTCXO

**Model: FOX914 SERIES**

**RoHS Compliant / Pb Free**

**Rev. 8/8/2013**

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## FEATURES

- 3.0V Operation
- 1.5mm Height Max
- Clipped Sine Output
- Low Cost
- Tape and Reel (2,000 pcs. STD)

## OPTIONS

- Voltage Control (FOX914E)
- Voltages of 2.5V ~ 2.8V ~ 3.3V

## • PART NUMBER SELECTION

| Part Number         | Model Number | Frequency Stability | Operating Temperature (°C) | Frequency Range (MHz) <sup>1</sup> |
|---------------------|--------------|---------------------|----------------------------|------------------------------------|
| 490-Frequency-xxxxx | FOX914B      | See table           | -30 ~ +85                  | 8.000 ~ 40.000                     |
| 491-Frequency-xxxxx | FOX914E      | See table           | -30 ~ +85                  | 8.000 ~ 40.000                     |

## • ELECTRICAL CHARACTERISTICS

| PARAMETERS                                                                          | MAX (unless otherwise noted)    |
|-------------------------------------------------------------------------------------|---------------------------------|
| Frequency Range (Fo)                                                                | 8.000 ~ 40.000 MHz <sup>1</sup> |
| Temperature Range                                                                   |                                 |
| Operating (T <sub>OPR</sub> ) <sup>3</sup>                                          | -30°C ~ +85°C                   |
| Storage (T <sub>STG</sub> )                                                         | -40°C ~ +85°C                   |
| Supply Voltage (V <sub>DD</sub> ) <sup>4</sup>                                      | 3.0V ± 5%                       |
| Input Current (I <sub>DD</sub> )                                                    | 2.0mA                           |
| Initial Frequency Tolerance (@ 25°C ± 2°C)<br>(V <sub>c</sub> = 1.5V <sup>2</sup> ) | ±1.0PPM                         |
| Frequency Stability                                                                 |                                 |
| Over Temperature Range <sup>3</sup>                                                 | ±2.5PPM                         |
| Over Supply Voltage Change (3.0V ± 5%)                                              | ±0.2PPM                         |
| Over Load Change (10kΩ ± 10% // 10pF ± 10%)                                         | ±0.2PPM                         |
| Output Waveform (Clipped Sine)                                                      |                                 |
| Peak-to-Peak Level (V <sub>p-p</sub> )                                              | 0.8V Min                        |
| Output Load                                                                         | 10kΩ // 10pF ± 10%              |
| Aging per year                                                                      | ±1.0PPM                         |
| Pullability <sup>2</sup> (V <sub>c</sub> = 1.5 ± 1.0V)                              | ±5.0 ~ ±15.0 PPM                |

<sup>1</sup> Undeveloped frequencies available on an inquiry basis.

<sup>2</sup> For proper operation, a control voltage (V<sub>c</sub>) must be applied to pin 1 on VCTCXOs.

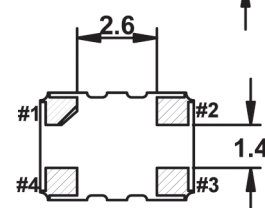
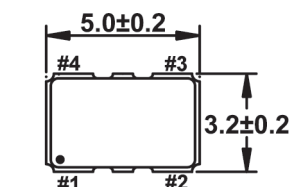
<sup>3</sup> Other stabilities/temperature ranges available.

<sup>4</sup> Other voltages available.

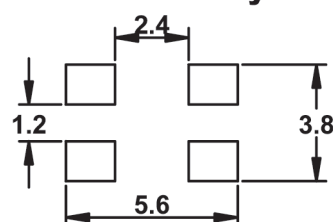
\*Dimensional drawing is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary. All specifications subject to change without notice.

## • DEVELOPED FREQUENCIES<sup>1</sup>

|            |            |
|------------|------------|
| 12.600 MHz | 19.200 MHz |
| 12.800 MHz | 19.440 MHz |
| 13.000 MHz | 19.680 MHz |
| 13.824 MHz | 19.800 MHz |
| 14.400 MHz | 20.000 MHz |
| 14.850 MHz | 26.000 MHz |
| 16.800 MHz |            |



## Recommended Solder Pad Layout



## Pin Connections

| FOX914B |                    | FOX914E                        |                    |
|---------|--------------------|--------------------------------|--------------------|
| #1 GND  | #3 Output          | #1 V <sub>c</sub> <sup>3</sup> | #3 Output          |
| #2 GND  | #4 V <sub>DD</sub> | #2 GND                         | #4 V <sub>DD</sub> |

All dimensions are in millimeters.