

# 3.3V, Low Profile SMD VCXO



Model: VCSAXT Series

RoHS Compliant / Pb Free

Rev. 10/19/2010

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## FEATURES

- 3.3V Operation
- HCMOS Output
- Enable/Disable
- Tape and Reel (2,000 pcs. STD)

## OPTIONS

- Many Stability/Pullability Options
- -40°C ~ +85°C Option ('R' Version)

## • PART NUMBER SELECTION [Learn More](#) - Internet Required

| Part Number         | Model Number           | Frequency Stability <sup>1</sup> | Frequency Pullability(Min) | Operating Temperature | Frequency    |
|---------------------|------------------------|----------------------------------|----------------------------|-----------------------|--------------|
| 421-Frequency-xxxxx | VCS12AXT               | ±25PPM                           | ±50PPM                     | -10 ~ +70(°C)         | 1.000~80.000 |
| 437-Frequency-xxxxx | VCS12AXTR <sup>3</sup> | ±25PPM                           | ±50PPM                     | -40 ~ +85(°C)         | 1.000~80.000 |
| 422-Frequency-xxxxx | VCS15AXT               | ±50PPM                           | ±50PPM                     | -10 ~ +70(°C)         | 1.000~80.000 |
| 439-Frequency-xxxxx | VCS15AXTR              | ±50PPM                           | ±50PPM                     | -40 ~ +85(°C)         | 1.000~80.000 |
| 423-Frequency-xxxxx | VCS22AXT               | ±25PPM                           | ±100PPM                    | -10 ~ +70(°C)         | 1.000~80.000 |
| 443-Frequency-xxxxx | VCS22AXTR <sup>3</sup> | ±25PPM                           | ±100PPM                    | -40 ~ +85(°C)         | 1.000~80.000 |
| 424-Frequency-xxxxx | VCS25AXT               | ±50PPM                           | ±100PPM                    | -10 ~ +70(°C)         | 1.000~80.000 |
| 445-Frequency-xxxxx | VCS25AXTR              | ±50PPM                           | ±100PPM                    | -40 ~ +85(°C)         | 1.000~80.000 |
| 425-Frequency-xxxxx | VCS20AXT               | ±100PPM                          | ±100PPM                    | -10 ~ +70(°C)         | 1.000~80.000 |
| 441-Frequency-xxxxx | VCS20AXTR              | ±100PPM                          | ±100PPM                    | -40 ~ +85(°C)         | 1.000~80.000 |

## • ELECTRICAL CHARACTERISTICS

| PARAMETERS   | MAX (unless otherwise noted)    |
|--|---------------------------------|
| Frequency Range (Fo)                                     | 1.000 ~ 80.000 <sup>4</sup> MHz |
| Storage Temperature Range (T <sub>STG</sub> )            | -40°C ~ +85°C                   |
| Supply Voltage (V <sub>DD</sub> )                        | 3.3V ± 10%                      |
| Control Voltage (V <sub>c</sub> )                        | 1.65V ± 1.5V                    |
| Input Current (I <sub>DD</sub> )                         |                                 |
| 1.000 ~ 30.000 MHz                                       | 15mA                            |
| 30.000+ ~ 45.000 MHz                                     | 25mA                            |
| 45.000+ ~ 80.000 MHz                                     | 50mA                            |
| Output Symmetry (50% V <sub>DD</sub> )                   | 40% ~ 60%                       |
| Rise Time (10% ~ 90% V <sub>DD</sub> ) (T <sub>r</sub> ) | 5nS                             |
| Fall Time (90% ~ 10% V <sub>DD</sub> ) (T <sub>f</sub> ) | 5nS                             |
| Output Voltage (V <sub>OL</sub> )                        | 10% V <sub>DD</sub>             |
| (V <sub>OH</sub> )                                       | 90% V <sub>DD</sub> Min         |
| Output Current (I <sub>OL</sub> )                        | 4.0mA Min                       |
| (I <sub>OH</sub> )                                       | -1.0mA Min                      |
| Output Load (HCMOS)                                      | 15pF                            |
| Start-up Time (T <sub>s</sub> )                          | 10mS                            |
| Enable/Disable Time <sup>2</sup>                         | 150nS                           |
| Frequency Linearity                                      | ±10%                            |
| Modulation Bandwidth                                     | 20 kHz                          |

<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, vibration, and V<sub>c</sub> = 1.65V.

<sup>2</sup> An internal pullup resistor from pin 2 to pin 6 allows active output if pin 2 is left open.

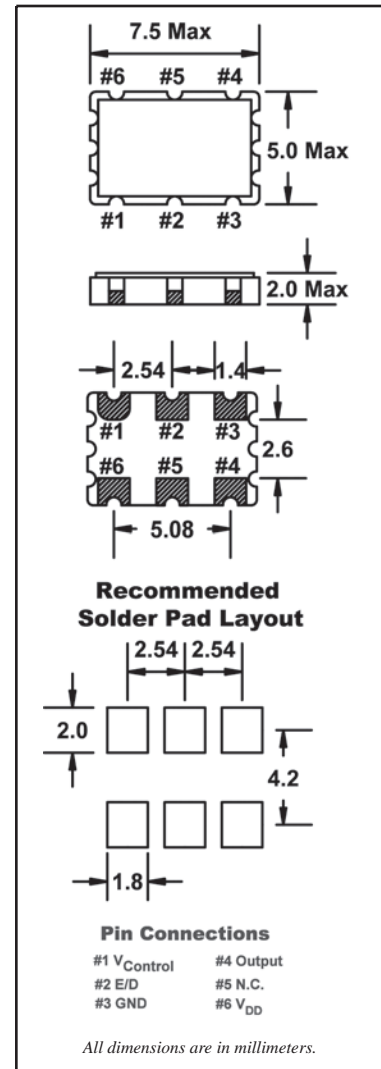
<sup>3</sup> Available on an individual inquiry basis.

<sup>4</sup> Custom specifications from 45.000 to 80.000 MHz available on an individual inquiry basis.

Note: A 0.01µF bypass capacitor should be placed between V<sub>DD</sub> (Pin 6) and GND (Pin 3) to minimize power supply line noise.

Note: An alternate pin connection with E/D on pin #5 is available.

All specifications subject to change without notice.



## • ENABLE / DISABLE FUNCTION

|   |                |
|---|----------------|
| INH (Pin 2)                                     | OUTPUT (Pin 4) |
| OPEN <sup>2</sup>                               | ACTIVE         |
| '1' Level V <sub>IH</sub> ≥ 70% V <sub>DD</sub> | ACTIVE         |
| '0' Level V <sub>IL</sub> ≤ 30% V <sub>DD</sub> | High Z         |