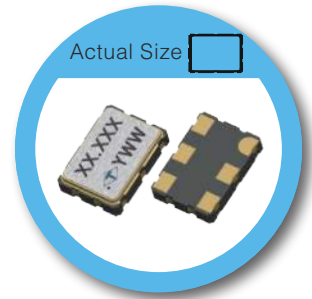


VT Type

7.0 x 5.0 mm SMD LVPECL/LVDS Voltage Controlled Crystal Oscillator


 Actual Size 

FEATURE

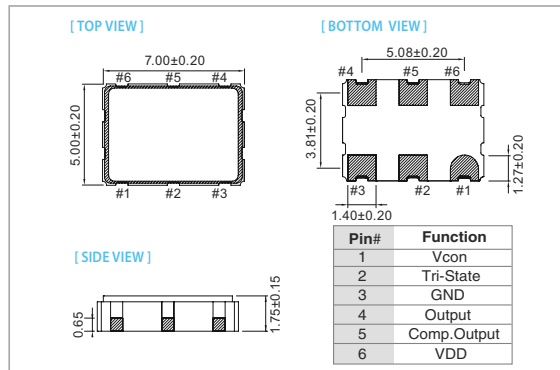
- Typical 7.0 x 5.0 x 1.75 mm 6 pads ceramic SMD package.
- Very low jitter performance: typical 0.3 pS RMS from 12k-20MHz.
- Wide frequency control range.
- Complementary Output.
- Tri-state enable/disable

TYPICAL APPLICATION

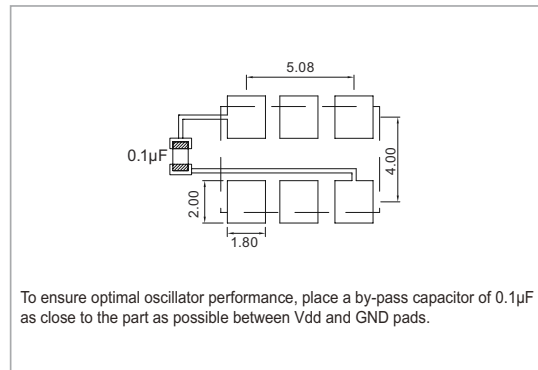
- Set-top Box, HDTV
- WiMAX/WLAN
- xDSL/ VoIP, Cable modem
- Jitter Attenuator, ADC

RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

| Parameter | LVPECL | | | | LVDS | | | | Unit |
|---|---|---------------------|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|---------------------|--------|
| | 3.3 V | | 2.5V | | 3.3 V | | 2.5V | | |
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | |
| Supply Voltage Variation (V _{DD}) | V _{DD} -5% | V _{DD} +5% | V _{DD} -5% | V _{DD} +5% | V _{DD} -5% | V _{DD} +5% | V _{DD} -5% | V _{DD} +5% | V |
| Frequency Range | 1.5 | 200 | 65 | 200 | 1.5 | 200 | 65 | 200 | MHz |
| Standard Frequency | 77.76, 106.25, 122.88, 125, 155.52, 156.25, 200 | | | | | | | | |
| Absolute Pulling Range (APR) | ±50 | - | ±50 | - | ±50 | - | ±50 | - | ppm |
| Control Voltage Range | 0.3 | 3.0 | 0 | 2.5 | 0.3 | 3.0 | 0 | 2.5 | V |
| Supply Current | 1.5 MHz ≤ F _o < 65 MHz | | 65 MHz ≤ F _o ≤ 200 MHz | | 1.5 MHz ≤ F _o < 65 MHz | | 65 MHz ≤ F _o ≤ 200 MHz | | mA |
| Output Level | Output High | | Output Low | | Output High | | Output Low | | V |
| Transition Time: Rise/Fall Time+ | - | 1.68 | - | 1.095 | - | 1.6 | - | 0.9 | nSec |
| Start Time | - | 3 | - | 3 | - | 3 | - | 3 | mSec |
| Tri-State (input to Pin 2, Enable High) | | | | | | | | | |
| Enable (High voltage or floating) | 2.31 | - | 1.75 | - | 2.31 | - | 1.75 | - | V |
| Disable (Low voltage or GND) | - | 0.99 | - | 0.75 | - | 0.99 | - | 0.75 | |
| Linearity | - | 10 | - | 10 | - | 10 | - | 10 | % |
| Modulation Bandwidth (BW) | 15 | - | 15 | - | 15 | - | 15 | - | kHz |
| Input Impedance | 10000 | - | 10000 | - | 10000 | - | 10000 | - | kΩ |
| RMS Phase Jitter (Integrated 12kHz-20MHz) | | | | | | | | | |
| F _o < 100 MHz | - | 1 | - | 1 | - | 1 | - | 1 | pSec |
| 100 MHz ≤ F _o < 125 MHz | - | 0.7 | - | 0.7 | - | 0.7 | - | 0.7 | |
| 125 MHz ≤ F _o < 150 MHz | - | 0.5 | - | 0.5 | - | 0.5 | - | 0.5 | |
| 150 MHz ≤ F _o | - | 0.3 | - | 0.3 | - | 0.3 | - | 0.3 | |
| Phase Noise@153.6 MHz | 100 Hz | | 1 kHz | | 100 Hz | | 1 kHz | | dBc/Hz |
| | -85 | | -85 | | -85 | | -85 | | |
| | -115 | | -115 | | -115 | | -115 | | |
| | -130 | | -130 | | -130 | | -130 | | |
| Aging (@ 25°C 1st year) | - | ±3 | - | ±3 | - | ±3 | - | ±3 | ppm |
| Storage Temp. Range | -55 | 125 | -55 | 125 | -55 | 125 | -55 | 125 | °C |

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

 + Transition times are measured between 20% and 80% of V_{DD}.

FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppm | |
|------------|-----|-----|
| | ±25 | ±50 |
| -10 ~ +60 | △ | ○ |
| -20 ~ +70 | △ | ○ |
| -40 ~ +85 | × | ○ |

* ○: Available △:Conditional X: Not available

 * Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration

Note: not all combination of options are available. Other specifications may be available upon request.