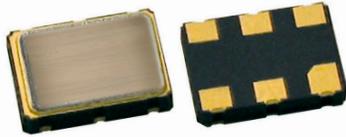


2.5V/3.3V LVDS XO

UX73/UX703



7.0 x 5.0mm Ceramic SMD

Product Features

- Ultra low phase jitter for 40G/100G systems
 - 0.1ps RMS max. (12kHz to 20MHz), Category 1
 - 0.2ps RMS max. (12kHz to 20MHz), Category 1
 - 0.3ps RMS max. (12kHz to 20MHz), Category 2
- Industrial Temperature Range
- Pb-free & RoHS compliant

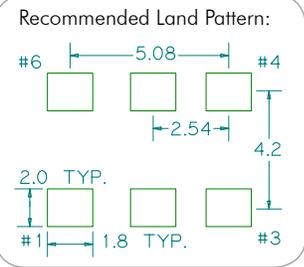
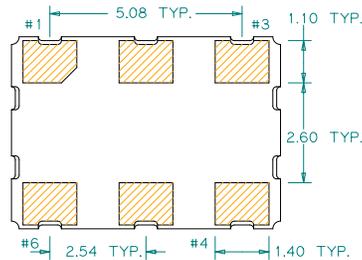
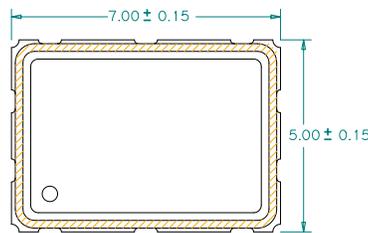
Product Description

The UX73/UX703 XO series is a high performance LVDS crystal oscillator family with ultra low jitter performance. It supports various options including wider frequency range, 2.5V/3.3V voltage, various stabilities, and different package sizes. It is designed to meet the clock source specifications for communication systems, and other high performance equipment.

Applications

- Networking Systems
- Servers and Storage Systems
- Profession Video Equipments
- Test and Measurement
- FPGA/ASIC Clock Generation

Package: (Scale: none; dimensions are in mm)

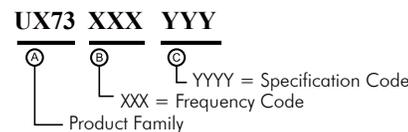


*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Pin Functions:

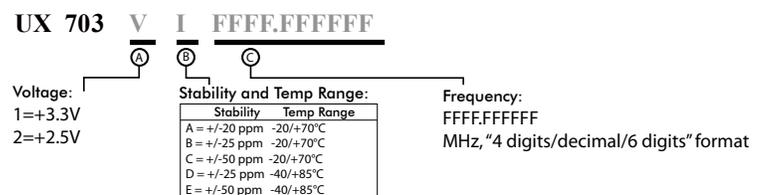
| Pin | Function |
|-----|-----------------|
| 1 | OE Function |
| 2 | N/C |
| 3 | Ground |
| 4 | Q |
| 5 | \bar{Q} |
| 6 | V _{CC} |

Part Ordering Information Category 1:



*Not for all frequencies in the frequency range. Please contact sales for details.

Part Ordering Information Category 2:



Electrical Performance

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------------------------|--------------------------------|-------|-------|-------|---|
| Output Frequency | 50 | | 320 | MHz | |
| Supply Voltage | 3.135 | 3.3 | 3.465 | V | See ordering options |
| | 2.375 | 2.5 | 2.625 | | |
| Supply Current, Output Enabled | | | 75 | mA | |
| Supply Current, Output Disabled | | | 30 | uA | |
| Frequency Stability | | | ±50 | ppm | See ordering options |
| Operating Temperature Range | -40 | | +85 | °C | See ordering options |
| Differential Output Voltage, V_{OD} | 0.247 | 0.350 | 0.454 | V | |
| Output Common Mode Voltage, V_{OS} | 1.125 | 1.25 | 1.375 | V | |
| Output Load | 100Ω connected between outputs | | | | Output requires termination |
| Duty Cycle | 45 | | 55 | % | Measured 50% V_{CC} |
| Rise and Fall Time | | | 850 | ps | Measured 20/80% of waveform |
| Jitter, Phase RMS (1-σ), Category 1 | | | 0.1 | ps | 12kHz to 20 MHz frequency band, See ordering information category 1 |
| | | | 0.2 | ps | |
| Jitter, Phase RMS (1-σ), Category 2 | | | 0.3 | ps | 12kHz to 20 MHz frequency band, See ordering information category 2 |
| Jitter, Accumulated RMS (1-σ) | | 7 | | ps | 20,000 Consecutive Periods |
| Jitter, pk-pk | | 25 | 40 | ps | 100,000 random periods |

Notes:

- Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
- For specifications other than those listed, please contact sales.

Output Enable / Disable Function

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|--------------|------|--------------|-------|----------------|
| Input Voltage (pin 1), Output Enable | 0.7 V_{CC} | | | V | or open |
| Input Voltage (pin 1), Output Disable (low power standby) | | | 0.3 V_{CC} | V | Output is Hi-Z |
| Internal Pullup Resistance | | 50 | | kΩ | |
| Output Disable Delay | | | 200 | ns | |
| Output Enable Delay | | | 2 | ms | |
| Start up Time | | | 3 | ms | |

Absolute Maximum Ratings

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------|------|------|------|-------|-------|
| Storage Temperature | -55 | | +125 | °C | |

For the latest product information visit: <https://www.diodes.com/products/connectivity-and-timing/crystal-and-crystal-oscillator/>

For test circuit go to: https://www.diodes.com/assets/sre/tc_pecl.pdf

For soldering reflow profile and reliability test ratings go to: <https://www.diodes.com/assets/sre/reflow.pdf>

For tape and reel information go to: https://www.diodes.com/assets/sre/tr_7050_xo.pdf