

2.5/3.3V LVPECL XO

UX52/UX502



5.0 x 3.2mm 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

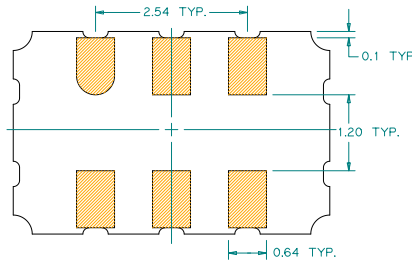
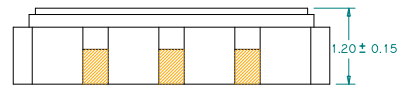
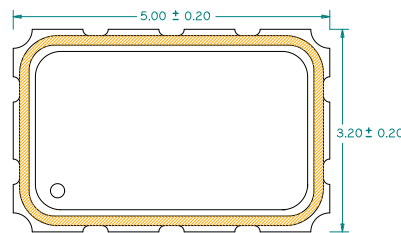
Product Description

The UX52/UX502 XO series is a high performance LVPECL crystal oscillator family with ultra low jitter performance. It supports various options including wider frequency range, 2.5/3.3 voltage, various stabilities, and different package sizes. It is designed to meet the clock source specifications for communication systems, and other high performance equipment.

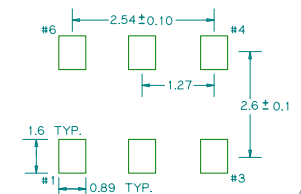
Applications

- Networking systems
- Servers and storage systems
- Profession video equipments
- Test and measurement
- FPGA/ASIC clock generation

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



Recommended Land Pattern:



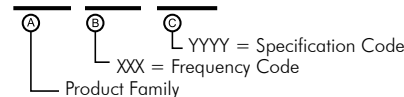
*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Pin Functions:

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

Part Ordering Information Category 1:

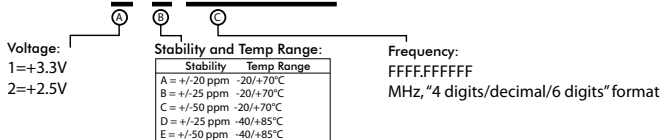
UX52 XXX YYY



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

Part Ordering Information Category 2:

UX 502 V I FFFF.FFFFFFFF



Electrical Performance

| Parameter | Min. | Typ. | Max. | Units | Notes |
|-------------------------------------|---|------|-----------------------|-------|---|
| Output Frequency | 25 | | 212.5 | MHz | |
| Supply Voltage | 3.135 | 3.3 | 3.465 | V | See ordering options |
| | 2.375 | 2.5 | 2.625 | | |
| Supply Current, Output Enabled | | | 70 | mA | |
| Supply Current, Output Disabled | | | 25 | mA | |
| Frequency Stability | | | ±50 | ppm | See ordering options |
| Operating Temperature Range | -40 | | +85 | °C | See ordering options |
| Output Logic 0, V _{OL} | | | V _{CC} -1.55 | V | |
| Output Logic 1, V _{OH} | V _{CC} -1.2 | | | V | |
| Output Load | 50Ω to V _{CC} -2V output termination | | | | |
| Duty Cycle | 45 | | 55 | % | Measured 50% V _{CC} |
| Rise and Fall Time | | | 600 | 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, pk-pk | | | 30 | 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 | | 100 | | kΩ | |
| Output Disable Delay | | | 80 | ns | |
| Output Enable Delay | | | 80 | ns | |
| Start up Time | | | 3 | ms | |

Absolute Maximum Ratings

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

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