# EUROQUARTZ XOA32 Low Frequency Oscillator

## 3.2 x 2.5mm SMD oscillator with AT-Cut Crystal 32.768kHz

### FEATURES

- **3.2x2.5mm SMD package with AT-Cut crystal for high stability**
- **Frequency 32.768kHz for real time clock applications**
- **Tristate (Enable/Disable) function as standard**
- **Supply voltage 3.3V, 2.5V or 1.8 Volts**

### DESCRIPTION

XOA32miniature oscillators consist of a TTL/CMOS-compatible hybrid circuit together with a miniature AT-Cut quartz crystal packaged in a low-profile, industry-standard ceramic package. The AT-Cut crystal provides high frequency stability but with a low µA current consumption, usually only available with a X-Cut crystal.

### SUPPLY VOLTAGE DEPENDANT SPECIFICATION

| Supply Voltage (Vdd) | +1.8VDC | +2.5VDC | +3.3VDC |
|---|---|---|---|
| Current Consumption (32.768kHz, 15pF load) | 65µA typ., 80µA max. | 70µA typ., 90µA max. | 75µA typ., 100µA max. |
| Output Logic HIGH (VOH; IOH= -1.0mA) | 1.62 V min. | 2.25V min. | 2.97V min. |
| Output Logic LOW (VOL; IOL= -1.0mA) | 0.18V max. | 0.25V max. | 0.33V max. |
| Rise Time/Fall Time | 5.0ns typ., 10ns max. | 4.0ns typ., 10ns max. | 3.0ns typ., 10ns max. |

### GENERAL SPECIFICATION

| | |
|---|---|
| Frequency: | from 10kHz to 100kHz |
| Supply Voltage: | 1.8V or 2.5V±10% or 3.3 Volts ±10% |
| Output Logic: | HCMOS/LSTTL |
| Frequency Stability: | ±25ppm, ±50ppm or ±100ppm over Operating Temp. Range |
| Operating Temp. Range: | -10 to +70°C (Commercial)<br>-40 to +85°C (Industrial) |
| Supply V. vs. Freq. Stability: | ±1ppm max. |
| Output Load: : | 15pF |
| Duty Cycle: | 50%±3% tyical, 50%±5% max. |
| Storage Temperature: | -55° to +125°C |
| Startup Time: | 0.8ms typical 5.0ms max. |
| Ageing: | ±3ppm max. per year |
| Tristate Function (Pad 1): | Output (Pad 3) is active if Pad 1 is not connected or a voltage to Pad 1 is 'HIGH'. Output is high impedance when 'LOW' or GROUND is applied to Pad 1. |
| Enable/Disable Time: | Enable: 1ms max., Disab: 0.1µs max. |

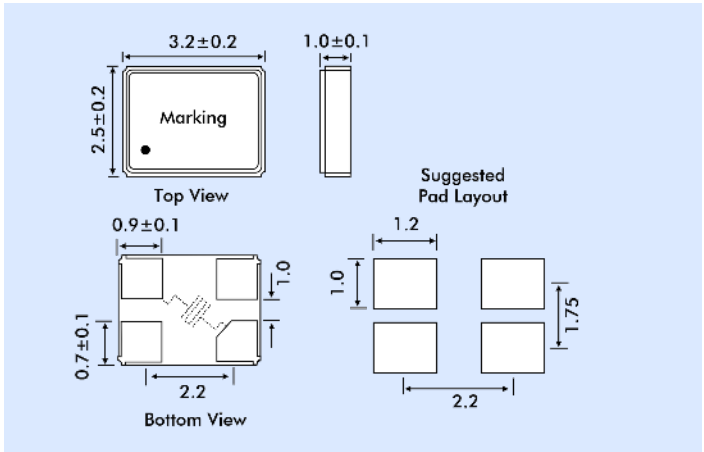
*Note: Parameters are measured at ambient temperature of 25°C, supply voltage as stated and a load of 15pF*

### PART NUMBERING

Example: 32.768kHz XOA32025UCTA

- Frequency
- Series Designation XOA32
- Temperature Stability
  - 025 = ±25ppm
  - 050 = ±50ppm
  - 100 = ±100ppm
- Output CMOS/TTL
- Operating Temperature Range
  - C = Commercial (-10° to +70°C)
  - I = Industrial (-40° to +85°C)
- Tristate Function
- Supply Voltage
  - A = 3.3Volts
  - B = 2.5 Volts
  - C = 1.8 Volts

### OUTLINE & DIMENSIONS




Pad Connections:
1. High Enable
2. Ground
3. Output
4. Supply Voltage

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