

FEATURES

- Ultra-low current consumption (typically 15µA)
- Fast start-up (typically 15ms)
- Tight Tolerance
- High Shock Resistance
- Low Ageing
- Full military testing available

DESCRIPTION

The CXOXULP 32.768kHz oscillator achieves low power consumption comparable with a tuning fork design and the fast start up and tight stability obtainable with AT-cut crystal designs. Designed for applications requiring ultra-low current and fast start-up the part offers stability of ±30ppm to ±100ppm over -55° to +125°C; this being achieved while being able to withstand significantly higher shock than a tuning fork design.

SPECIFICATION

Specifications are typical at 25°C unless otherwise indicated. Tighter specifications are available, contact Euroquartz technical sales.

Frequency Range:	32.7680kHz
Supply Voltage:	1.8V to +3.3 Volts ±10%
Calibration Tolerance:	±25ppm
Frequency Stability over Operating Temperature Range	
Commercial (0° ~ +70°C):	±10 to ±50ppm
Industrial(-40° ~ +85°C):	±20 to ±100ppm
Military (-55° ~ +125°C):	±50 to ±100ppm
Output Load (CMOS):	15pF
Ageing:	±5ppm first year
Shock, Survival:	Standard: 5000g, 0.3ms, ½ sine HG: 10,000g, 0.3ms, ½ sine
Vibration Survival:	20g, 10~2000Hz swept sine
Rise and Fall Time:	6ns maximum

ABSOLUTE MAXIMUM RATINGS

Supply Voltage:	-0.3V to 5.0V
Storage Temperature:	-55° to +125°C
Maximum Process Temperature:	260°C for 20 seconds

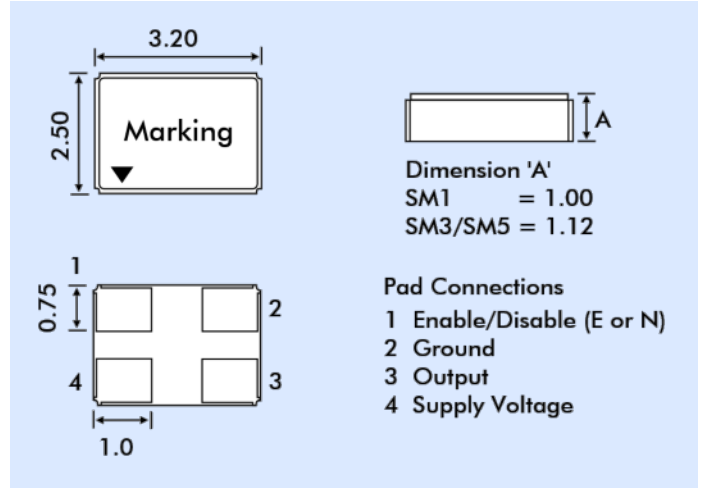
Symbol	Parameter	Min.	Typ.	Max.	Unit
V _{OH}	Output Voltage High	0.9V _{DD}			V
V _{OL}	Output Voltage Low			0.1V _{DD}	V
t _{startup}	Start-up Time:		15		ms
t _r	Rise Time (10%~90%)		85	160	ns
t _f	Fall Time (10%~90%)		45	100	ns
	Duty Cycle	45	50	55	%
I _{DD}	Input Current		15		µA

Actual Size

Top View Side View



OUTLINE & DIMENSIONS



ENABLE/DISABLE OPTIONS

There are two Enable/Disable options available, 'E' and 'N'. The 'E' option stops oscillating when the output is put into the High Z state. The 'N' version does not have Pad 1 connected internally. The table below describes the 'E' Enable/Disable option.

	Enable (Pad 1 High)	Disable (Pad 1 Low)
Output Oscillator	Frequency Output Oscillates	High Z state Stops
Current	15µA	4.0µA at 25°C

When Pad 1 is allowed to float it is held high by an internal pull-up resistor.

PACKAGING OPTIONS

CXOXULP oscillators are available either tray packed (<250pcs) or tape and reel (>250 pieces).
12mm tape, 178mm or 330mm reels (EIA 418).

HOW TO ORDER CXOXULP CRYSTAL OSCILLATORS

