FEATURES

- **Ultra-low current consiumption**
- **Typical start-up time of 200ms**
- **Typical Rise/Fall times of 25ns**
- **Hermetically sealed ceramic package**
- **Optional output enable/disable with Tri-state**
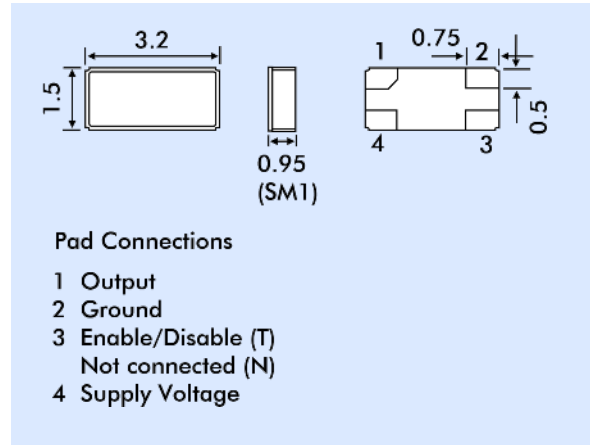- **Full military testing per MIL PRF 55310 available**

DESCRIPTION

CXOL oscillators are ultra-miniature (32. x 1.5mm), ultra-low current quartz crystal oscillators with a typical start-up time of 200ms. Hermetically sealed in a highy reliable ceramic housing, these oscdillators are available over a wide range of input voltages (1.2V ~ 5.0V).

SPECIFICATION

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

Frequency Range:	32.0kHz to 100.0kHz
Supply Voltage:	+1.2 Volts to +5.0 Volts ±10%
Current Consumption:	32.768kHz: 2.8μA
	32.768kHz: 0.4μA
	100.0kHz: 8.0μA
Calibration Tolerance:	±20ppm, ±50ppm or ±100ppm
Voltage Coefficient:	±1ppm/V
Output Load:	10pF *(CMOS)*
Ageing First Year:	±2ppm
Shock, Survival:	Standard: 5000g, 0.3ms, ½ sine
Vibration Survival:	20g, 10~2000Hz swept sine
Start-up Time:	200ms
Operating Temperature:	-10°C to +70°C (Commercial)
	-40°C to +85°C (Industrial)
	-55°C to +125°C (Military)

PACKAGING OPTIONS

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

OUTLINE & DIMENSIONS

Pad Connections

1 Output
2 Ground
3 Enable/Disable (T)
   Not connected (N)
4 Supply Voltage

ENABLE/DISABLE OPTIONS

There are two Enable/Disable options available, 'T' and 'N'. The 'T' version has a Tri-State output and continues oscillating internally when the output is put into a high Z state. The 'N' version does not have PAD 3 connected internally and so has no Tri-State capability. The table below describes the Tri-State option 'T':

	Enable (Pad 3 High)	Disable (Pad 3 Low)
Output	Frequency Output	High Z state
Int. Oscillator	Oscillates	Oscillates
Current	Normal	Lower than normal

When Pad 3 is allowed to float it is held high by an internal pull-up resistor.

HOW TO ORDER CXOL SMD CRYSTAL OSCILLATORS

CXOL 3 S N - SM3 - 32.768k , 50 / C

Supply Voltage	Blank = standard	T = Tri state	Terminations	Frequency	Calibration	Temp. Range
1 = 1.8V	S = special or	N = No connection	Blank = SM1	k = kHz	Tolerance	C = -10° ~ +70°C
2 = 2.5V	custom		= Gold plated		at 25°C	I = -40° ~ +85°C
3 = 3.0V			(Lead free)		(in ±ppm)	M = -55° ~ +125°C
4 = 3.3V			SM2 = Solder plated			
5 = 5.0V			SM3 = Solder dipped			
			SM4 = Solder plated			
			(Lead free)			
			SM5 = Solder dipped			
			(Lead free)			