EURO QUARTZ

Designed & Manufactured by **STATEK**

XO95 Series Oscillators

High Reliability SMD Oscillator

200kHz to 220MHz

RoHS   REACH COMPLIANCE

FEATURES

- Designed for surface mount applications using infrared, vapor phase, or epoxy mount techniques
- CMOS and TTL compatible
- Low power consumption
- Optional Output Enable/Disable with Tri-State
- Low EMI emission
- High shock resistance
- Full military testing available
- Hermetically sealed ceramic package

DESCRIPTION

Manufcatured by Statek inc in the USA, the XO95 oscillators consist of a TTL/CMOS-compatible hybrid circuit with a miniature quartz crystal packaged in a low-profile, ceramic package. Utilizing the latest advancements in production technology, the combination of optimized design and high quality materials provide a highly reliable clock oscillator suitable for defence and aerospace applications.

APPLICATIONS

Military & Aerospace

- Smart munitions
- Cockpit Systems
- Navigation
- Engine control systems

Industrial, Computer & Communications

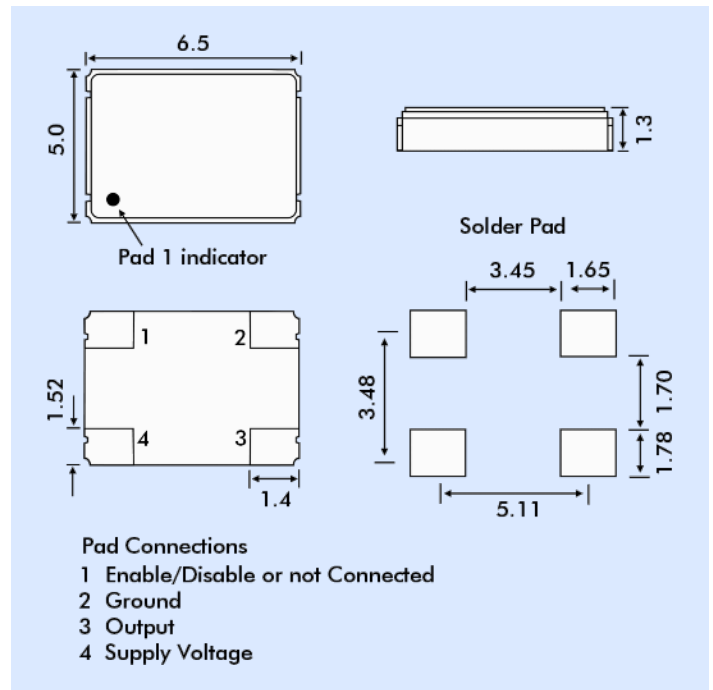- Industrial controls
- Instrumentation
- Microprocessor clocks

Medical

- Infusion pumps

OUTLINE & DIMENSIONS

Pad 1 indicator

Solder Pad

Pad Connections
1 Enable/Disable or not Connected
2 Ground
3 Output
4 Supply Voltage

ABSOLUTE MAXIMUM RATINGS

Supply Voltage Vdd:	-0.5V to 7.0V
Storage Temperature Range:	-55° to +125°C
Maximum Process Temperature:	260° for 20 seconds

PACKAGING OPTIONS

XO95 oscillators are supplied tray packed for quantities <250 pieces. Quantities above 250 pieces are supplied tape and reeled; 16mm tape on 178mm or 330mm reels per EIA 418.

COMPARISON OF ENABLE/DISABLE OPTIONS

There are three Enable/Disable options available, E, T and N. Both the E and T versions have Tri-state outputs. In the E version the oscillator stops, in the T version the oscillator continues to run. The N version (no tristate function) does not have pin 1 connected internally.

	E	T
Enable (Pin 1 High)		
Output:	Frequency Output	Frequency Output
Oscillator:	Oscillates	Oscillates
Current:	Normal	Normal
Disable (Pin 1 Low)		
Output:	High Z state	High Z state
Oscillator:	Stops	Oscillates
Current:	Very low	Lower than normal

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

FOR NEW DESIGNS USE THE CXOMK

Issue 2

SPECIFICATION

Note: Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice. Tighter specifications are available, please contact Euroquartz sales.

Frequency Range:	200.0kHz to 220.0MHz
Supply Voltage[1]:	0.9 Volts to 5.0 Volts ±10%
Calibration Tolerance[2]:	± 30 ppm
Frequency Stability over Temperature[3]	
Commercial (-10 to +70°C):	±15 to ±50 ppm
Industrial (-40 to +85°C):	±30 to ±100 ppm
Military (-55 to +125°C):	±40 to ±100ppm
Output Load (CMOS)[4]:	15 pF
Supply Current:	See table
Start-up Time:	5 ms maximum
Rise/Fall Time:	6 ns maximum
Duty Cycle:	40/60% minimum
Ageing, first year:	±10 ppm maximum
Shock, survival[5]:	3000g, 0.3 ms, ½ sine
Vibration, survival[6]:	20g, 10 ~ 2,000Hz swept sine
Operating Temp Ranges	-10°C to +70°C (Commercial)
	-40°C to +85°C (Industrial)
	-55°C to +125°C (Military)

Notes:
1. *Voltages available: 0.9 V, 1.8 V, 2.5 V, 3.0 V, 3.3 V, 5.0 V. Not all voltages are available for all frequencies. Contact sales.*
2. *Tighter tolerances available.*
3. *Does not include calibration tolerance. Tighter tolerance may be available.*
4. *Higher CMOS loads and TTL loads available. Contact Euroquartz.*
5. *Higher shock version available. Contact Euroquartz.*
6. *Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing is also available.*

   All parameters are measured at ambient temperature with a 10MΩ, 15pF load.

SUPPLY CURRENT

Frequency	Supply Current Vdd = 3.3V	Supply Current Vdd = 5.0V
10MHz	2mA	4mA
24MHz	4mA	8mA
30MHz	6mA	10mA
40MHz	8mA	12mA
50MHz	10mA	14mA

HOW TO ORDER XO95 SMD OSCILLATORS

Example: XO954ST-SM3-32.0M/100/100/-I

XO95	4	S	T	SM3 -	32.0M,	100 /	100 /	– /	I

Supply Voltage
1 = 1.8V
2 = 2.5V
3 = 3.0V
4 = 3.3V
5 = 5.0V

'S' if special or custom parameters required

Enable/Disable option, E, T or N

Terminations
Blank = SM1 = Gold plated
SM3 = Solder dipped
SM5 = Solder dipped
(SM1 and SM5 are pB free)

Frequency
K = kHz
M = MHz

Calibration Tolerance at 25°C (in ±ppm)

Frequency Stability over Temp. Range (in ppm)

Temp. Range
C = -10° ~ +70°C
I = -40° ~ +85°C
M = -55° ~ +125°C
S = Customer specified

OR

– /	– /	200 /	I

Total (overall) frequency tolerance in ±ppm

Temp. Range
C = -10° ~ +70°C
I = -40° ~ +85°C
M = -55° ~ +125°C
S = Customer specified

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Issue 2