

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

XO95 oscillators consist of a TTL/CMOS-compatible hybrid circuit with a miniature quartz crystal packaged in a low-profile, ceramic package. 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

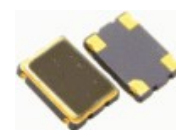
- Infusion pumps

ABSOLUTE MAXIMUM RATINGS

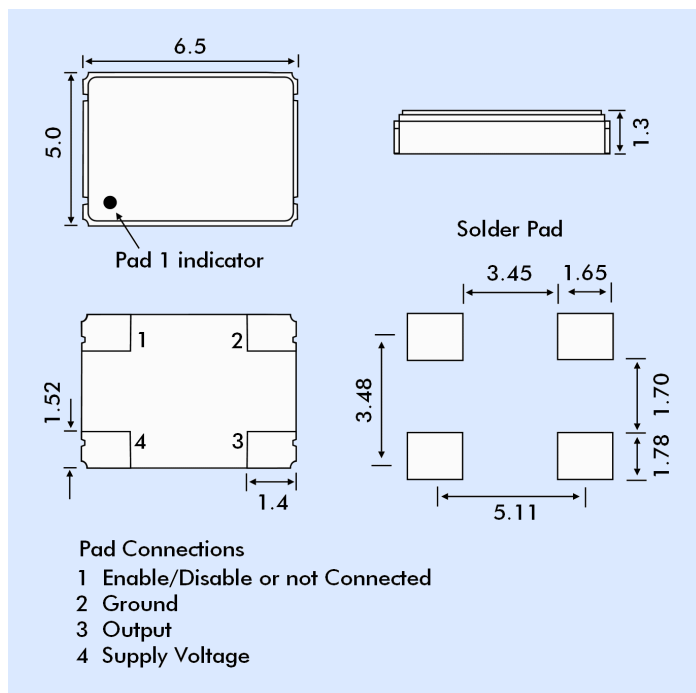
Supply Voltage Vdd:	-0.5V to 7.0V
Storage Temperature Range:	-55° to +125°C
Maximum Process Temperature:	260° for 20 seconds

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.



OUTLINE & DIMENSIONS



ENABLE/DISABLE OPTIONS (E/T/N)

XO95 oscillators are offered with three enable/disable options: E, T and N. Both the E and T versions have Tri-State outputs and differ in whether the oscillator continues to run internally when the output is in put into the high Z state: In the E version the oscillator stops when disabled while in the T version the oscillator continues to run when disabled. Hence, the E version offers very low current consumption when disabled and the T version offers very fast output recovery when the oscillator is re-enabled. The N version does not have Pad 1 connected internally so has no enable/disable function. the following table summarizes the three options:

COMPARISONS ENABLE/DISABLE OPTIONS E AND T

	E	T
<i>When enabled (Pad 1 is HIGH)</i>		
Output	Freq. output	Freq. output
Oscillator	Oscillates	Oscillates
Current consumption	Normal	Normal
<i>When disabled (Pad 1 is LOW)</i>		
Output	High Z state	High Z state
Oscillator	Stops	Oscillates
Current consumption	Very low	Lower than normal
<i>When re-enable (Pad1 changes from LOW to HIGH)</i>		
Output recovery	Delayed	Immediate

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.

Supply Voltage ¹ :	0.9 Volts to 5.0 Volts ±10%
Calibration Tolerance ² :	± 100 ppm
Frequency Stability over Temperature ³	
Commercial -10 to +70°C:	±50 ppm
Industrial -40 to +85°C:	±100 ppm
Military -55 to +125°C:	±100ppm
Supply Current :	
10.0MHz:	4 mA (typical)
24.0MHz:	8 mA
30.0MHz:	10 mA
40.0MHz:	12 mA
50.0MHz:	14 mA
Output Load (CMOS) ⁴ :	15 pF
Start-up Time:	5 ms maximum
Rise/Fall Time:	6 ns maximum
Duty Cycle:	40/60% minimum
Aging, first year:	±10 ppm maximum
Shock, survival ⁵ :	3,000 g, 0.3 ms, ½ sine
Vibration, survival ⁶ :	20 g, 10 ~ 2,000 Hz 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. For others contact Euroquartz sales.
 2. Other tolerances available.
 3. Does not include calibration tolerance. Other tolerances available.
 4. Higher CMOS loads and TTL loads available. Contact Euroquartz.
 5. Higher shock version available. Contact Euroquartz sales.
 6. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.
- All parameters are measured at ambient temperature with a 10MΩ, 15pF load.

HOW TO ORDER XO95 SMD OSCILLATORS

