XO95 SERIES

6.5mm x 5.0mm
High-Specification Oscillator

DESCRIPTION

Euroquartz XO95 series oscillators consist of a TTL/CMOS compatible hybrid circuit and a miniature quartz crystal packaged in a low-profile ceramic package. Full military testing is available making this an ideal crystal for defence and aerospace applications requiring a highly reliable source of clock signals.

FEATURES

- **Suitable for Vapour-Phase, Infrared or Epoxy mount techniques**
- **TTL or CMOS compatible**
- **Low power consumption**
- **Optional Tristate or Standby functions**
- **Low EMI emission**
- **Supply Voltage 3.3 Volts or 5.0 Volts**
- **High shock resistance**
- **Full military testing available**
- **Hermetically sealed ceramic package**

SPECIFICATION

Frequency Range:	1.25MHz to 120MHz	
Supply Voltage:	+3.3 Volts or +5.0 Volts	
Calibration Tolerance*		
A:	±0.01% (±100ppm)	
B:	±0.1%	
C:	±1.0%	
Frequency stability**		
Temp. Range	**Stability**	
0° ~ +50°C:	from ±5ppm to ±30ppm	
-10°~+70°C:	from ±10ppm to ±50ppm	
-40°~+85°C:	from ±20ppm to ±100ppm	
-55°~+125°C:	from ±30ppm to ±100ppm	
Supply Current		
Frequency	**3.3 Volts**	**5.0 Volts**
50MHz	10mA	14mA
40MHz	8mA	12mA
30MHz	6mA	10mA
24MHz	4mA	8mA
Output Load		
CMOS:	15pF (<50pF available)	
TTL:	10 Loads	
Start-up Time:	2ms typical, 5ms max. (to reach 90% amplitude at 25°±2°C)	
Rise/Fall Time:	3ns typical, 6ns maximum	
Ageing:	±10ppm maximum in 1st year	
Shock, survival*:**	3000g peak 0.3ms, ½ sine	
Vibration, survival:	20g rms 10Hz~2000Hz random	
Operating Temperature:	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)	

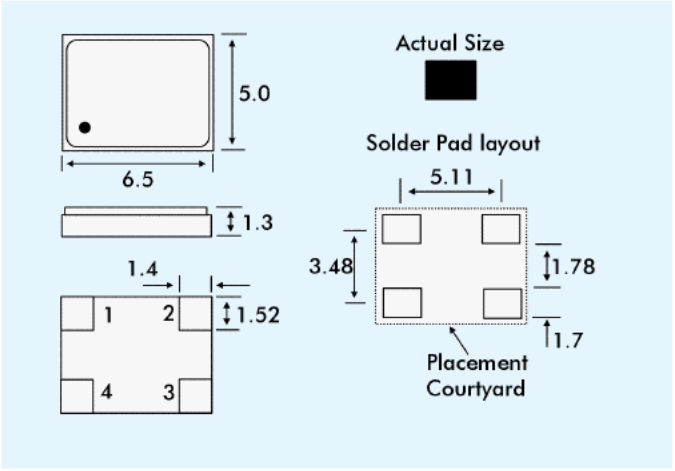
* Tighter tolerance available
** Does not include calibration tolerance
*** High shock version available

Note: All parameters are measured at ambient temperature with a 10MΩ and 10pF load at 5.0 Volts.

MILITARY TESTING

Testing to Mil. specifications is available. To detail testing required see separate Mil. Testing specification or contact Euroquartz Technical Sales.

OUTLINES AND DIMENSIONS



PAD CONNECTIONS

1: Output Enable $\overline{\text{INH}}$ (Tristate) or NC
2: Ground
3: Output
4: Vdd

POWER DOWN vs. TRISTATE

Output Condition	Power Down	Tristate
Current consumption when Pad 1 is LOW	LOW	HIGH
Output recovery delay when Pad 1 changes from LOW(0) to HIGH(1)	DELAYED	IMMEDIATE

Power Down: When Pad 1 is LOW (0) the oscillator stops oscillation.
Tristate; When Pad 1 is LOW the oscillator continues to run but the output buffer amplifier stops functioning; output is high impedance (Z).

PACKAGING

1: Tray pack (Standard)
2: 16mm tape, 175mm or 325mm reels (optional) (As per EIA 481)

PART NUMBER GENERATION

XO95 series oscillators part numbers are derived as follows:
EXAMPLE

16.000MHz XO95050UMTA Cal.C

Frequency
XO95 - series designation
030 - ±30ppm
050 - ±50ppm
100 - ±100ppm
U - CMOS/TTL o/p
M - Military Temp.
I - Industrial Temp.
C - Commercial Temp.
T - Tristate
P - Power Down
Blank - 5.0 Volts
A - 3.3 Volts
Cal.A - Calibration A
Cal.B - Calibration B
Cal.C - Calibration C
Cal.x - Special cal. in ppm (Where 'x' is the agreed calibration tol.)

EUROQUARTZ LIMITED Blacknell Lane CREWKERNE Somerset UK TA18 7HE
Tel: +44 1460 230000 Fax: +44 1460 230001 email: info@euroquartz.co.uk web: www.euroquartz.co.uk