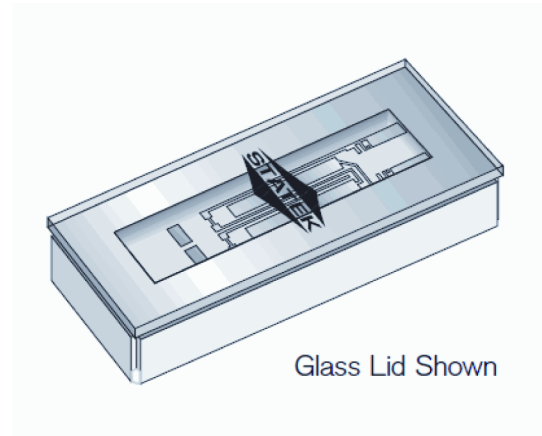


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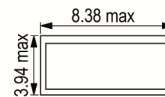
### Description

- The CX1H TF quartz crystal is manufactured using Statek's photolithographic process and then sealed within a rugged ceramic package for high shock resistance and low ageing. This high quality tuning fork resonator is intended for use in Series (two cascaded inverters) oscillators.
- -C SM1 Ceramic lid SM1
- Gold Plated (RoHS Compliant)
- -C SM4 Ceramic lid SM4
- Solder Plated (RoHS Compliant)
- -C SM5 Ceramic lid SM5
- Solder Dipped (RoHS Compliant)
- -SM1 Glass lid SM1
- Gold Plated (RoHS Compliant)
- -SM4 Glass lid SM4
- Solder Plated (RoHS Compliant)
- -SM5 Glass lid SM5
- Solder Dipped (RoHS Compliant)
- FEATURES:
  - Miniature tuning fork design
  - High shock resistance
  - Designed for low power applications
  - Compatible with hybrid or PC board packaging
  - Low ageing
  - Full military testing available
- Please note that all data is only valid at 25°C unless otherwise stated.

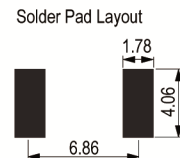
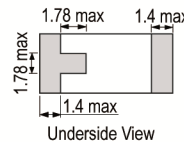
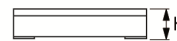


Glass Lid Shown

### Outline (mm) -SM1 = Glass lid SM1



Height (H) =	Glass Lid	Ceramic Lid
SM1	1.65 max	1.78 max
SM2	1.70 max	1.83 max
SM3	1.78 max	1.90 max
SM4	1.70 max	1.83 max
SM5	1.78 max	1.90 max



### Frequency Parameters

- Frequency: 10.0kHz to 600.0kHz
- Frequency Tolerance: ±30.00ppm to ±5,000.00ppm
- Tolerance Condition: @ 25°C
- Ageing: ±5ppm max in 1st year
- Temperature Coefficient (k): -0.035/°C<sup>2</sup>
- Frequency (f) at temperature (T) deviation from frequency (fo) at turning point temperature (To):  $(f - f_0)/f_0 = k(T - T_0)^2$
- Note: Tighter tolerances are available - please contact an IQD Sales Office
- Note: Other turning points are available - please contact an IQD Sales Office

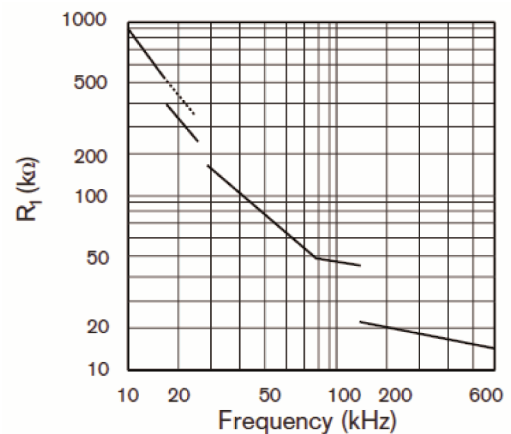
### Electrical Parameters

- Shunt Capacitance (C0): 2pF max
- Drive Level: 1.5µW max 10-24.999kHz, 3µW max 25-600
- Maximum Motional Resistance:
  - 2 x typical (10-169.999kHz)
  - 2.5 x typical (170-600kHz)
- Quality Factor (Q): Minimum is 0.25 x typical

### Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

### CX1H Typical Motional Resistance



### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

#### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: 1000G, 1ms, 1/2 sine
- Vibration: 20G RMS, 10-2000Hz
- Note: Higher shock and vibration available - please contact an IQD Sales Office

#### Manufacturing Details

- PACKAGE HANDLING: The CX1H SMD crystal is hermetically sealed in a ceramic package. Normal handling and soldering precautions for small, low thermal mass parts are adequate when installing or testing these crystals. CX1H SMD crystals may be reflow soldered at a maximum soldering process temperature of 260°C for 20sec max.

#### Ordering Information

- Frequency\*  
Model\*  
Lid Variant\*  
Termination Variant\*  
Frequency Tolerance (@25°C)\*  
Operating Temperature Range\*  
Load Capacitance  
Overtone  
(\*minimum required)
- Lid Variants:  
Blank = Glass  
C = Ceramic
- Termination Variants:  
SM1 = Gold Plated  
SM4 = Solder Plated  
SM5 = Solder Dipped  
(Note: Non-RoHS compliant terminations also available - SM2 = Pb Solder Plated / SM3 = Pb Solder Dipped - please contact an IQD Sales Office)
- Example  
40.0kHz CX1H TF C SM1  
100/-/-10 to 70C/SR FUND

#### Compliance

- RoHS Status (2011/65/EU)      Optional
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

#### Packaging Details

- Pack Style: Tray      Supplied on a tray  
Pack Size: 1
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000

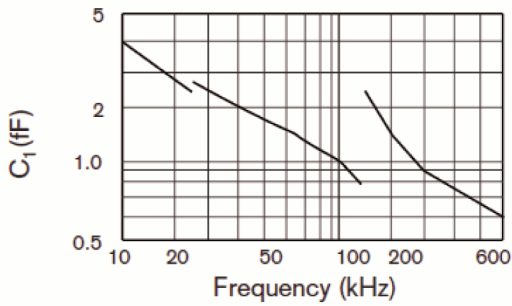
#### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

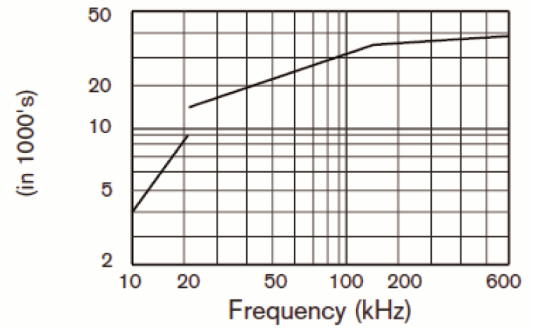
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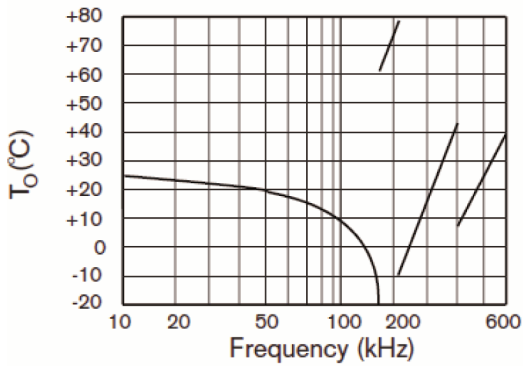
**CX1H Typical Motional Capacitance**



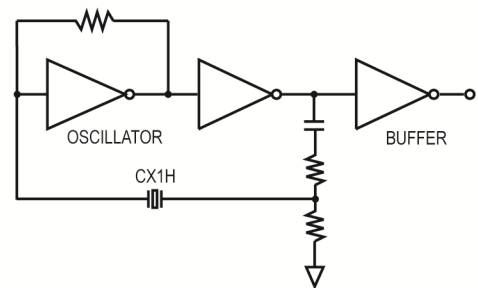
**CX1H Typical Quality Factor**



**CX1H Typical Turning Point Temperature**



**Conventional Series Oscillator Circuit**



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