

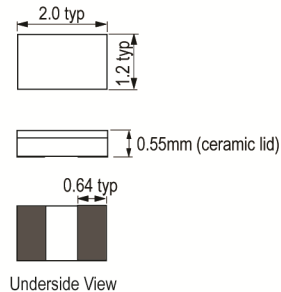
ISSUE 1; June 2019

Description

- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. When miniaturisation is paramount the low profile CX16 quartz crystal is an excellent choice. Available in a frequency of 32.768kHz, this crystal has a typical footprint of 2.0mm x 1.2mm, and a typical height of 0.55mm. The resonator is manufactured using Statek’s photolithographic and chemical milling processes and then sealed within a ceramic package for high stability and low ageing. Available with tight calibration tolerances and high stability over temperature, this crystal is well suited for applications that have a space restraint and require a crystal with a low profile.
- -C SM1 Gold plated, ceramic lid
- -SM1 Gold plated, glass lid
- FEATURES:
 - Surface mount design
 - Ultra-miniature
 - Ultra-low profile
 - Hermetically sealed
 - High shock and vibration survival
 - Excellent ageing characteristics
- APPLICATIONS:
 - Medical -
 - Main Clock/Real-Time Clock in:
 - Glucose Monitoring Systems
 - Catheter Tips
 - Surgical Instruments
- Please note that all data is only valid at 25°C unless otherwise stated.



Outline (mm) -SM1 = Gold plated, glass lid



Frequency Parameters

- Frequency 32.768kHz
- Frequency Tolerance ±100.00ppm
- Tolerance Condition @ 25°C
- Ageing ±3ppm max in 1st year @ 25°C
- Turnover Temperature (To): 25°C
- Frequency Stability Coefficient (k): -0.035ppm/°C²
- The crystal frequency f as a function of temperature T follows the parabolic relationship:
 $f(T) = f(T_0) [1 + k (T - T_0)^2]$
 where T_0 is the turnover temperature and k is the frequency stability coefficient
- Note: Other Turnover Temperatures and tighter Frequency Tolerances are available - please contact an IQD Sales Office

Electrical Parameters

- Load Capacitance (CL) 9.0pF
- Shunt Capacitance (C0) 1.2pF typ
- Drive Level 0.5µW max
- Motional Capacitance C1: 5fF typ
- Quality Factor Q: 13000 typ
- Note: Other Load Capacitances are available - please contact an IQD Sales Office

Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Operating Temperature Ranges

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

Environmental Parameters

- Shock: 5000G, 0.3ms, 1/2 sine
- Vibration: 20G, 10-2000Hz swept sine
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

- Maximum Process Temperature: 260°C for 20sec max

Ordering Information

- Frequency*
Model*
Termination Variant
Frequency Tolerance (@ 25°C)*
Operating Temperature Range*
Load Capacitance*
(*minimum required)
- Termination Variants:
SM1 = Gold Plated, glass lid
SM1-C = Gold Plated, ceramic lid
- Example
32.768kHz CX16 TF-C SM1
100/-/-55 to 125C/9 FUND

Compliance

- RoHS Status (2015/863/EU) Optional
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

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

Electrical Specification - maximum limiting values

Frequency Min	Temperature Range	Stability (Min)	Over Tone Order	ESR
	°C	ppm		Ω
32.768000kHz	-10 to 70	-	Fundamental	75,000
	-40 to 85	-	Fundamental	75,000
	-55 to 125	-	Fundamental	75,000

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