

ISSUE 1; April 2016

Description

- The surface-mount CXOQ is an ultra-miniature quartz crystal oscillator with an optional Enable/Disable function. Hermetically sealed in a highly reliable ceramic housing Statek have designed this oscillator to withstand high stock applications.
- -HG-SM1 SM1 Gold Plated (RoHS compliant) high shock
- -HG-SM5 SM5 Solder Dipped (RoHS compliant) high shock
- -SM1 SM1 Gold Plated (RoHS compliant)
- -SM5 SM5 Solder Dipped (RoHS compliant)
- FEATURES:
 - High shock survival
 - Low acceleration sensitivity (HG version)
 - Low power consumption
 - High frequency stability
 - CMOS and TTL compatible
 - Optional output enable/disable with Tri-State
 - Low EMI emission
 - Hermetically sealed ceramic package
 - Full military testing per MIL PRF 55310 available
- APPLICATIONS:
 - Military
 - Medical
 - Industrial
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

- Frequency 400.0kHz to 100.0MHz
- Frequency Tolerance $\pm 30.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Tolerance Condition @ 25°C
- Frequency Stability $\pm 50.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ max in 1st year
- Note: Tighter Frequency Tolerances and Stabilities are available - please contact an IQD Sales Office.

Electrical Parameters

- Supply Voltage 3.3V $\pm 10\%$
- Absolute Maximum Supply Voltage Range: -0.5V to 5.0V
- Supply Current (typical):
 - 3.0mA @ 24MHz
 - 5.0mA @ 32MHz
 - 6.0mA @ 50MHz

Operating Temperature Ranges

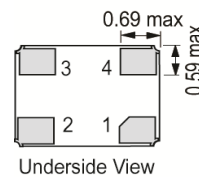
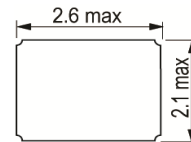
- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

Output Details

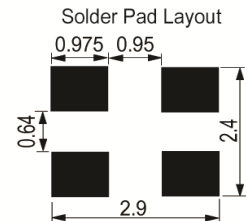
- Output Compatibility CMOS
- Drive Capability 15pF
- Start-Up Time: 5ms max
- Note: Tighter Duty Cycles are available - please contact an IQD Sales Office.



Outline (mm) -SM1 = SM1 Gold Plated (RoHS compliant)



- | | |
|-----------------|--------------|
| Pad Connections | Height (H) = |
| 1. EN/NC | SM1 1.0 max |
| 2. GND & Lid | SM3 1.22 max |
| 3. Output | SM5 1.22 max |
| 4. +Vs | |



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
Web: www.iqdfrequencyproducts.com

Output Control

- Enable/Disable Function:
Logic '1' to pad 1 enables oscillator output.
Logic '0' to pad 1 disables oscillator output, output goes to high impedance state, current consumption very low, internal oscillator stops.
No connection to pad 1 enables oscillator output.

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock:
Standard: 5000G, 0.3ms, 1/2 sine.
High Shock (HG): 20000G, 0.3ms, 1/2 sine.
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz swept sine.
- Note: Random vibration testing is also available - please contact an IQD Sales Office.

Manufacturing Details

- Maximum Process Temperature: 260°C (20secs max)

Ordering Information

- Frequency*
Model*
Supply Voltage
Shock Level*
Termination Variant*
Output
Frequency Tolerance (@ 25°C)*
Frequency Stability (over operating temperature range)*
Operating Temperature Range
Pad 1 Function*
(*minimum required)
- Shock Level Options:
Blank = Standard
HG = High Shock
- Termination Variants:
SM1 = Gold Plated
SM5 = Solder Dipped
Note: non-RoHS compliant terminations are available (SM3 = Solder Dipped) - please contact an IQD Sales Office.
- Pad 1 Function Options:
EN = Enable/Disable
NC = No Connection
- Example:
10.0MHz CXOQ 3.3V SM1
CMOS ±100ppm ±100ppm -40 to 85C NC

Compliance

- RoHS Status (2011/65/EU) Optional
- REACH Status Compliant
- MSL Rating (JEDEC-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

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Electrical Specification - maximum limiting values 3.3V \pm 10%

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
400.0kHz	100.0MHz	-10 to 70	\pm 50.0	-	10	45/55%
		-40 to 85	\pm 100.0	-	10	45/55%
		-55 to 125	\pm 100.0	-	10	45/55%

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