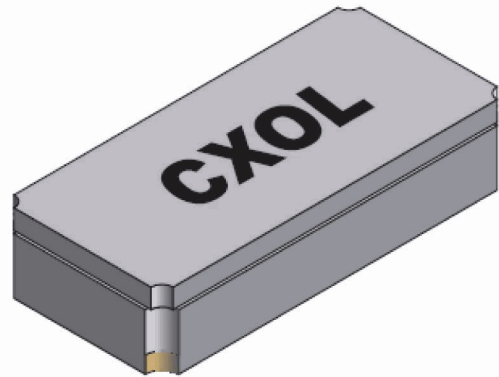


ISSUE 1; September 2018

Description

- The surface-mount CXOL is an ultra-miniature, ultra-low current quartz crystal oscillator with a typical start-up time of 200ms, hermetically sealed in a highly reliable ceramic housing.
- SM1 Gold Plated (RoHS)
- SM5 Solder Dipped (RoHS)
- FEATURES:
 - Ultra-low current consumption
 - Typical start-up time of 200ms
 - Typical rise and fall times of 25ns
 - Hermetically sealed ceramic package
 - Optional output enable/disable with Tri-State
- Please note that all data is only valid at 25°C unless otherwise stated.



Frequency Parameters

- Frequency: 32.0kHz to 100.0kHz
- Frequency Tolerance: $\pm 20.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Tolerance Condition: @ 25°C
- Ageing: $\pm 2\text{ppm}$ max in 1st year
- Voltage Coefficient: $\pm 1\text{ppm/V}$ typ
- Note: Other Frequency Tolerances are available - please contact an IQD Sales Office

Electrical Parameters

- Supply Voltage: 5.0V $\pm 10\%$
- Note: Other Supply Voltages are available - please contact an IQD Sales Office
- Supply Voltage (absolute maximum rating): -0.5V to 7.0V
- Supply Current:
 - 32.768kHz (with $V_s=3.3\text{V}$ & load=10pF): 2.8 μA typ
 - 32.768kHz (with $V_s=3.3\text{V}$, load=10pF & OE is low): 0.4 μA typ
 - 100kHz (with $V_s=3.3\text{V}$ & load=10pF): 8.0 μA typ

Operating Temperature Ranges

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

Output Details

- Output Compatibility: CMOS
- Drive Capability: 10pF
- Note: Other Output Loads are available - please contact an IQD Sales Office
- Output Level High V_{oh} : $V_s - 0.4\text{V}$ min
- Output Level Low V_{ol} : 0.4V max

Output Control

- Start Up Time: 200ms typ

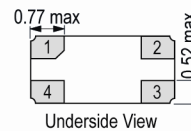
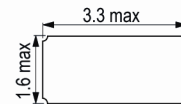
Environmental Parameters

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

Manufacturing Details

- Maximum Process Temperature: 260°C max (for 2mins max)

Outline (mm) SM1 = Gold Plated (RoHS)



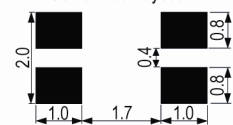
Pad Connections

1. Output
2. GND
3. Tri-State/NC
4. +Vs

Termination (H):

- SM1 = 1.0mm max
- SM3 and SM5 = 1.2mm max

Solder Pad Layout



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Ordering Information

- Frequency*
- Model*
- Supply Voltage*
- Termination Variant*
- Output
- Frequency Tolerance (@ 25°C)*
- Operating Temperature Range*
- Pad 3 Function*
(minimum required*)
- Termination Variants:
 - SM1 = Gold Plated
 - SM3 = Solder Dipped (non RoHS)
 - SM5 = Solder Dipped (RoHS)
- Pad 3 Function Options:
 - TS = Tri-State
 - NC = No connection
- Example
32.768kHz CXOL 5.0V SM1
CMOS ±50ppm -40 to 85C NC

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

Electrical Specification - maximum limiting values 5.0V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
32.0kHz	100.0kHz	-10 to 70	-	-	50	45/55%
		-40 to 85	-	-	50	45/55%
		-55 to 125	-	-	50	45/55%

This document was correct at the time of printing; please contact your local sales office for the latest version.

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