



## CXOLP

### CXOLP

CXOLP is an ultra-miniature, low power, fast start-up time, high shock and low ageing quartz crystal oscillator hermetically sealed in a ceramic housing.

Model Name	Description
CXOLP 1.8V	1.8V Version
CXOLP 2.5V	2.5V Version
CXOLP 3.0V	3.0V Version
CXOLP 3.3V	3.3V Version

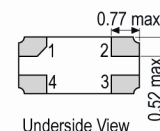
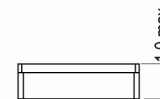
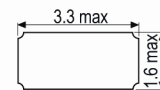
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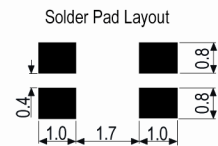
- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. CXOLP is an ultra-miniature, low power, fast start-up time, high shock and low ageing quartz crystal oscillator hermetically sealed in a ceramic housing.
- SM1 Gold Plated (RoHS)
- SM4 Solder Plated (RoHS)
- FEATURES:
  - Low current consumption (55µA @ 1MHz)
  - Fast start-up (1ms typical)
  - Tight tolerance
  - High shock resistance (10000G typical)
  - Low ageing
  - Hermetically sealed ceramic package
- APPLICATIONS:
  - Military, Aerospace & Avionics
  - Communications
  - Battery Operated Devices
  - Navigation
  - ICAD Devices
  - GPS
  - Industrial, Computer & Communications
  - Wireless Telemetry
  - Handheld instrumentation
  - Transponder/Animal migration
  - Medical
  - Patient monitoring
  - Infusion Pumps



### Outline (mm) SM1 = Gold Plated (RoHS)



- Pad Connections
1. Output
  2. GND
  3. Enable/Disable/NC
  4. +Vs



### Frequency Parameters

- Frequency: 1.0MHz to 8.50MHz
- Frequency Tolerance: ±25.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±10.00ppm to ±100.00ppm
- Ageing: ±2ppm max in 1st year
- Note: Other Frequency Tolerances are available - please contact an IQD sales office

### Electrical Parameters

- Supply Voltage: 1.8V ±10%
- Supply Voltage (absolute maximum rating): -0.5V to 5.0V
- Supply Current (@ 1.8V):
  - 2MHz (@ 25°C and load=5pF): 65µA typ
  - 4MHz (@ 25°C and load=5pF): 115µA typ
  - 8MHz (@ 25°C and load=5pF): 210µA typ
- Please note that all data is only valid at 25°C unless otherwise stated.

### Operating Temperature Ranges

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

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 5pF
- Note: Other output loads available - please contact IQD sales office.
- Output Levels:
  - Output High Voh: 90%Vs min
  - Output Low Vol: 10%Vs max
- Rise Time (@ 3.3V, 5pF//1MΩ load): 5.5ns typ
- Fall Time (@ 3.3V, 5pF//1MΩ load): 5.0ns typ



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**Output Control**

- Start Up Time: 1ms typ

**Environmental Parameters**

- Storage Temperature Range: -55 to 125°C
- Shock: 10000G, 0.3ms, 1/2 sine
- Higher Shock available - please contact IQD sales office.
- Vibration: per MIL-STD-202G, Method 204D. Cond.D, 20G, 10Hz-2000Hz swept sine

**Manufacturing Details**

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

**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 (RoHS)
  - SM4 = Solder Plated (RoHS)
- Example
  - 2MHz CXOLP 1.8V SM1
  - CMOS ±50ppm -40 to 85C NC

**Compliance**

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

**Packaging Details**

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

Electrical Specification - maximum limiting values 1.8V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	8.5MHz	-10 to 70	±10.0	-	-	40/60%
		-40 to 85	±20.0	-	-	40/60%
		-55 to 125	±40.0	-	-	40/60%

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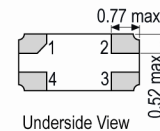
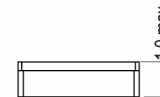
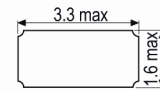
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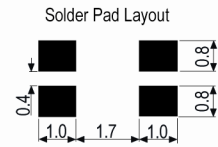
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- SM1 Gold Plated (RoHS)
- SM4 Solder Plated (RoHS)
- FEATURES:
  - Low current consumption (55µA @ 1MHz)
  - Fast start-up (1ms typical)
  - Tight tolerance
  - High shock resistance (10000G typical)
  - Low ageing
  - Hermetically sealed ceramic package
- APPLICATIONS:
  - Military, Aerospace & Avionics
  - Communications
  - Battery Operated Devices
  - Navigation
  - ICAD Devices
  - GPS
  - Industrial, Computer & Communications
  - Wireless Telemetry
  - Handheld instrumentation
  - Transponder/Animal migration
  - Medical
  - Patient monitoring
  - Infusion Pumps



### Outline (mm) SM1 = Gold Plated (RoHS)



- Pad Connections
1. Output
  2. GND
  3. Enable/Disable/NC
  4. +Vs



### Frequency Parameters

- Frequency: 1.0MHz to 8.50MHz
- Frequency Tolerance: ±25.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±10.00ppm to ±100.00ppm
- Ageing: ±2ppm max in 1st year
- Note: Other Frequency Tolerances are available - please contact an IQD sales office

### Electrical Parameters

- Supply Voltage: 2.5V ±10%
- Supply Voltage (absolute maximum rating): -0.5V to 5.0V
- Supply Current (@ 2.5V):
  - 2MHz (@ 25°C and load=5pF): 85µA typ
  - 4MHz (@ 25°C and load=5pF): 150µA typ
  - 8MHz (@ 25°C and load=5pF): 285µA typ
- Please note that all data is only valid at 25°C unless otherwise stated.

### Operating Temperature Ranges

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

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 5pF
- Note: Other output loads available - please contact IQD sales office.
- Output Levels:
  - Output High Voh: 90%Vs min
  - Output Low Vol: 10%Vs max
- Rise Time (@ 3.3V, 5pF//1MΩ load): 5.5ns typ
- Fall Time (@ 3.3V, 5pF//1MΩ load): 5.0ns typ



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**Output Control**

- Start Up Time: 1ms typ

**Environmental Parameters**

- Storage Temperature Range: -55 to 125°C
- Shock: 10000G, 0.3ms, 1/2 sine
- Higher Shock available - please contact IQD sales office.
- Vibration: per MIL-STD-202G, Method 204D. Cond.D, 20G, 10Hz-2000Hz swept sine

**Manufacturing Details**

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

**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 (RoHS)
  - SM4 = Solder Plated (RoHS)
- Example
  - 2MHz CXOLP 2.5V SM1
  - CMOS ±50ppm -40 to 85C NC

**Compliance**

- RoHS Status (2015/863/EU)      Compliant
- 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
- Pack Size: 1,000

**Electrical Specification - maximum limiting values 2.5V ±10%**

Frequency Min	Frequency Max	Temperature Range	Stability	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	8.5MHz	-10 to 70	±10.0	-	-	40/60%
		-40 to 85	±20.0	-	-	40/60%
		-55 to 125	±40.0	-	-	40/60%

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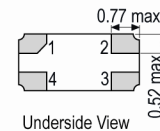
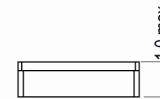
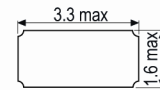
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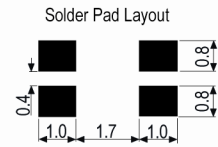
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- FEATURES:
  - Low current consumption (55µA @ 1MHz)
  - Fast start-up (1ms typical)
  - Tight tolerance
  - High shock resistance (10000G typical)
  - Low ageing
  - Hermetically sealed ceramic package
- APPLICATIONS:
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### Outline (mm) SM1 = Gold Plated (RoHS)



- Pad Connections
1. Output
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### Frequency Parameters

- Frequency: 1.0MHz to 8.50MHz
- Frequency Tolerance: ±25.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±10.00ppm to ±100.00ppm
- Ageing: ±2ppm max in 1st year
- Note: Other Frequency Tolerances are available - please contact an IQD sales office

### Electrical Parameters

- Supply Voltage: 3.0V ±10%
- Supply Voltage (absolute maximum rating): -0.5V to 5.0V
- Supply Current (@ 3.3V):
  - 2MHz (@ 25°C and load=5pF): 110µA typ
  - 4MHz (@ 25°C and load=5pF): 175µA typ
  - 8MHz (@ 25°C and load=5pF): 365µA typ
- Please note that all data is only valid at 25°C unless otherwise stated.

### Operating Temperature Ranges

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

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 5pF
- Note: Other output loads available - please contact IQD sales office.
- Output Levels:
  - Output High Voh: 90%Vs min
  - Output Low Vol: 10%Vs max
- Rise Time (@ 3.3V, 5pF//1MΩ load): 5.5ns typ
- Fall Time (@ 3.3V, 5pF//1MΩ load): 5.0ns typ



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**Output Control**

- Start Up Time: 1ms typ

**Environmental Parameters**

- Storage Temperature Range: -55 to 125°C
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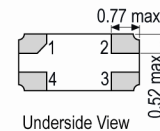
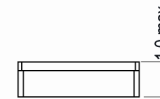
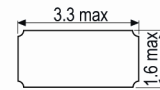
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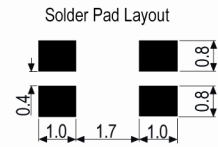
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