

ISSUE 1; March 2021

### Description

- A temperature compensated crystal oscillator with a voltage control function in a hermetically sealed surface mount ceramic package with a metal lid

### Frequency Parameters

- Frequency: 6.4MHz to 40.0MHz
- Frequency Tolerance:  $\pm 1.50$ ppm
- Tolerance Condition: @ 25°C  $\pm 2^\circ\text{C}$
- Frequency Stability:  $\pm 2.50$ ppm
- Ageing:  $\pm 1$ ppm max per year @ 25°C
- Supply Voltage Variation ( $\pm 5\%$  change):  $\pm 0.3$ ppm max
- Load Variation ( $\pm 5\%$  change):  $\pm 0.3$ ppm max

### Electrical Parameters

- Supply Voltage Options ( $\pm 5\%$ ): 2.5V, 2.8V, 3.0V & 3.3V

### Frequency Adjustment

- Pulling:  $\pm 5$ ppm min
- Control Voltage: 50%Vs  $\pm 50\%$ Vs

### Operating Temperature Ranges

- 30 to 85°C

### Output Details

- Output Compatibility: CMOS/Clipped Sine
- Drive Capability: 15pF or 10k $\Omega$ //10pF
- Output Voltage Levels:  
CMOS: Logic '1'; 80%Vs min / Logic '0'; 0.5V max  
Clipped Sine: 0.8V pk-pk min

### Output Control

- Start Up Time (90% of final output level): 2.0ms max

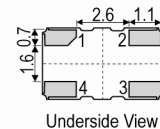
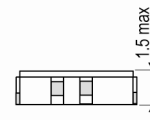
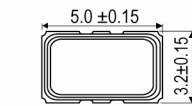
### Noise Parameters

- Phase Noise (typ @ 25MHz CMOS):  
-88dBc/Hz @ 10Hz  
-112dBc/Hz @ 100Hz  
-130dBc/Hz @ 1kHz  
-144dBc/Hz @ 10kHz  
-144dBc/Hz @ 100kHz  
-148dBc/Hz @ 1MHz

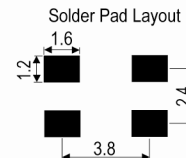
### Environmental Parameters

- Storage Temperature Range: -40 to 85°C
- Drop: JIS-C-6701: 75cm drop (3 times) onto hard wooden board
- Vibration: MIL-STD-883, Method 2007.2: 20G (20Hz-2000Hz), 1.5mm amplitude, in 3 mutually perpendicular planes, 4mins for each cycle

### Outline (mm)



Pad Connections  
1. Voltage Control  
2. GND  
3. Output  
4. +Vs



### Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**Ordering Information**

- Frequency\*  
 Model\*  
 Output\*  
 Frequency Stability (over operating temperature range)\*  
 Operating Temperature Range\*  
 Supply Voltage\*  
 Frequency Adjustment\*  
 (minimum required\*)
- Example  
 16.0MHz IQXT-190-1  
 CMOS ±2.5ppm -30 to 85C 3.3V ±5ppm min

**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-D  
                                  Pack Size: 1,000
- Pack Style: Bulk      Loose in bulk pack  
                                  Pack Size: 1

**Electrical Specification - maximum limiting values**

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
6.4MHz	40.0MHz	-30 to 85	±2.5	6	10	40/60%

*This document was correct at the time of printing; please contact your local sales office for the latest version.*  
[Click to view latest version on our website.](#)

**Sales Office Contact Details:**

UK: +44 (0)1460 270200

USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)