



### Description

- Temperature compensated crystal oscillator (TCXO)

Model IQXT-210-1

Model Issue number 2

### Frequency Parameters

- Frequency 20.0MHz
- Frequency Tolerance @ 25°C  $\pm 0.50\text{ppm}$
- Frequency Stability  $\pm 0.14\text{ppm}$
- Operating Temperature Range -40.00 to 85.00°C
- Ageing  $\pm 0.02\text{ppm}$  max per day,  $\pm 1\text{ppm}$  max per year
- Supply Voltage Variation (measurement referenced to frequency observed with TA=25°C, Vs varied from 3.13V to 3.47V and load=15pF):  $\pm 0.1\text{ppm}$  max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V and load=15pF):  $\pm 0.2\text{ppm}$  max
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with TA=25°C, Vs=3.3V, load=15pF and temperature variable speed less than 2°C per minute.
- Short Term Stability (@ 25°C after 10mins power on): 5E-10/s typ @ 10MHz
- Frequency Tolerance (measurement referenced to frequency observed with TA=25°C, Vs=3.3V and within 30 days after ex-works):  $\pm 0.5\text{ppm}$
- Ageing: TA=25°C, Vs=3.3V and after 1hr of operation.

### Electrical Parameters

- Supply Voltage 3.3V
- Supply Voltage Tolerance  $\pm 5\%$
- Current Draw 10.00mA max
- Current: TA=25°C, Vs=3.3V and load=15pF

### Output Details

- Output Compatibility HCMOS
- Output Load 15pF
- Rise and Fall time (10% - 90%) 8ns max
- Duty Cycle 45/55% max
- Output Low (@ Vs=3.3V, load=15pF): 0.4V max
- Output High (@ Vs=3.3V, load=15pF): 2.4V min

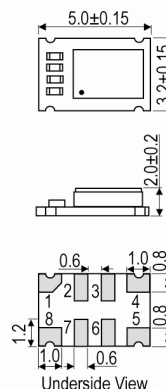
### Noise Parameters

- Phase Noise (@ 10MHz typ):
  - 90dBc/Hz @ 10Hz
  - 115dBc/Hz @ 100Hz
  - 135dBc/Hz @ 1kHz
  - 145dBc/Hz @ 10kHz
  - 148dBc/Hz @ 100kHz
  - 150dBc/Hz @ 1MHz

### Environmental Parameters

- Shock: IEC 60068-2-27, Test Ea: 100G acceleration for 6ms, half sinewave, in 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc: 10Hz-2000Hz, 0.75mm amplitude, 10G acceleration, 30mins per cycle, in 3 mutually perpendicular planes, test duration 2hrs
- Storage Temperature Range: -55 to 105°C
- Operable Temperature Range: -40 to 85°C

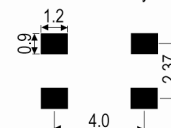
### Outline (mm)



### Pad Connections

1. N/C
2. N/C
3. N/C
4. GND
5. Output
6. N/C
7. N/C
8. +Vs

### Solder Pad Layout



### Sales Office Contact Details:

UK: +44 (0)1460 270200

Germany: +49 (0)7264 9145-62

France: +33 (0)5 34 50 91 18

USA: +1 408.273.4530

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

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



- ESD Level:  
HBM, Class 2: 2000V to 4000V, JEDEC JS-001-2010  
Machine Model, Class B: 200V to 400V, JEDEC JS-001-2010
- Moisture Sensitivity Level: 2
- Maximum Reflow Temperature: 260°C (30secs max)

### **Compliance**

- |                |           |
|----------------|-----------|
| ■ RoHS Status  | Compliant |
| ■ REACH Status | Compliant |

### **Packaging**

- |                   |                    |
|-------------------|--------------------|
| ■ Pack Type: Bulk | Loose in bulk pack |
| Pack Size         | 1                  |

- Alternative packing option available

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

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