


Description

- Temperature Compensated Crystal Oscillator (TCXO)
- Model IQXT-210-31
- Model Issue number 1

Frequency Parameters

- Frequency 10.0MHz
- Frequency Tolerance $\pm 0.50\text{ppm}$
- 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
- Frequency Tolerance: Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ and $V_S=3.3\text{V}$ within 30 days after ex-works.
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$, $V_S=3.3\text{V}$, load= 15pF and temperature variable speed less than $2^\circ\text{C}/\text{min}$.
- Ageing: measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ and $V_S=3.3\text{V}$ after 1hr of operation.
- Supply Voltage Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, V_S varied from 3.13V to 3.47V and load= 15pF): $\pm 0.1\text{ppm}$ max
- Load Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and load change= 15pF $\pm 5\%$): $\pm 0.2\text{ppm}$ max

Electrical Parameters

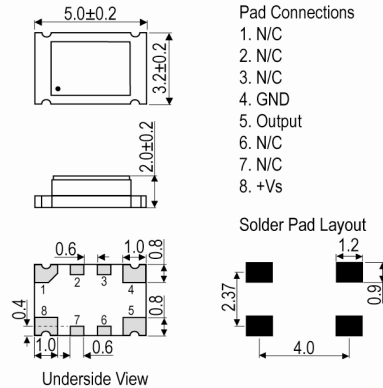
- Supply Voltage $3.3\text{V} \pm 5\%$
- Current Draw 10.000mA
- Current Consumption (@ $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and load= 15pF): 10mA max

Output Details

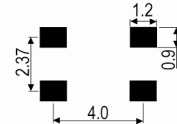
- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle $45/55\%$
- Output Voltage Levels (@ $V_S=3.3\text{V}$ and load= 15pF):
Output Low (V_{OL}): 0.4V max
Output High (V_{OH}): 2.4V min

Noise Parameters

- Phase Noise (typ @ 25°C):
-90dBc/Hz @ 10Hz
-115dBc/Hz @ 100Hz
-135dBc/Hz @ 1kHz
-145dBc/Hz @ 10kHz
-148dBc/Hz @ 100kHz
-150dBc/Hz @ 1MHz
- Phase Noise (max @ 25°C):
-85dBc/Hz @ 10Hz
-110dBc/Hz @ 100Hz
-130dBc/Hz @ 1kHz
-140dBc/Hz @ 10kHz
-143dBc/Hz @ 100kHz
-145dBc/Hz @ 1MHz

Outline (mm)

Pad Connections

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

Solder Pad Layout

Sales Office Contact Details:

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USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com
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Environmental Parameters

- Storage Temperature Range: -55 to 105°C
- ESD Levels: ANSI/ESDA/JEDEC JS-001-2010:
Human Body Model, Class 2: 2000V to 4000V
Machine Model, Class B: 200V to 400V
- Shock: IEC 60068-2-27, Test Ea, Severity 50A: 100g
acceleration for 6ms, half sine wave, 3 times in 3 mutually
perpendicular planes.
- Vibration: IEC 60068-2-06, Test Fc: 10Hz-2000Hz, 0.75mm
amplitude, 10g acceleration, 30mins per cycle, 3 times in 3
mutually perpendicular planes, test duration 2hrs.
- RoHS Terminations
- RoHS Reflow Temp 260°C max for 30secs max

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JEDEC-STD-033): 2

Packaging Details

- Pack Style: Bulk Loose in Bulk Packaging
Pack Size: 1
- *Alternative packing option available*

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