



Description

- Temperature Compensated Crystal Oscillator (TCXO)
- Model IQXT-210-31
- Model Issue number 4

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

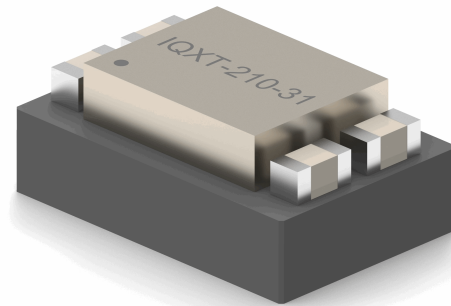
- Supply Voltage $3.3\text{V} \pm 5\%$
- Current Draw 10.000mA
- Current Consumption (@ $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and load= 15pF): 10mA max

Output Details

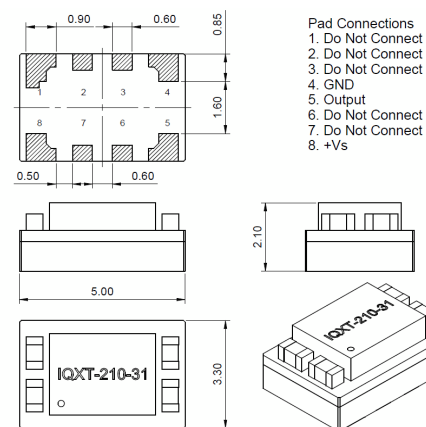
- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle $45/55\%$
- Output Voltage Levels (@ $V_S=3.3\text{V}$ and load= 15pF):
Output Low (VoL): 0.4V max
Output High (VoH): 2.4V min

Noise Parameters

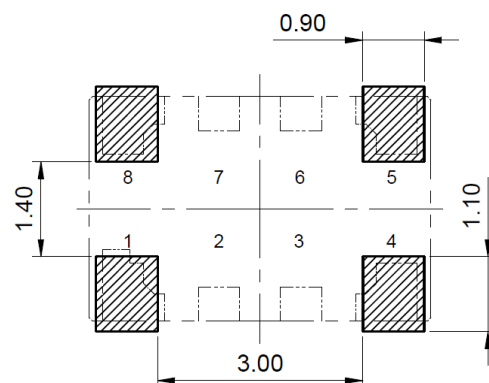
- Phase Noise (typ @ 25°C):
-90dBc/Hz @ 10Hz
-115dBc/Hz @ 100Hz
-135dBc/Hz @ 1kHz
-145dBc/Hz @ 10kHz
-148dBc/Hz @ 100kHz
-150dBc/Hz @ 1MHz
- Phase Noise (max @ 25°C):
-85dBc/Hz @ 10Hz
-110dBc/Hz @ 100Hz
-130dBc/Hz @ 1kHz
-140dBc/Hz @ 10kHz
-143dBc/Hz @ 100kHz
-145dBc/Hz @ 1MHz



Outline (mm)



Recommended Solder Pad Layout



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Environmental Parameters

- Storage Temperature Range: -55 to 105°C
- ESD Levels:
Human Body Model, Class 2: 2000V to 4000V, ANSI/ESDA/JEDEC JS-001-2010
Machine Model, Class B: 200V to 400V, JEDEC JESD22-A115
- 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 (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 2

Packaging Details

- Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape

Standard Pack Quantity: 1,000

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