



Description

- Voltage controlled temperature compensated crystal oscillator (VCTCXO) in a 5x3.2mm SMD package.
- Model IQXT-210-37
- Model Issue number 4

Frequency Parameters

- Frequency 19.20MHz
- Frequency Tolerance $\pm 0.50\text{ppm}$
- Frequency Stability $\pm 0.14\text{ppm}$
- Operating Temperature Range -40.00 to 85.00°C
- Ageing $\pm 0.02\text{ppm max/day, } \pm 1\text{ppm max/yr}$
- Frequency Tolerance: Measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.5V and within 30 days after ex-works.
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with $\text{Fref}=(\text{Fmax}+\text{Fmin})/2$, Vs=3.3V, VC=1.5V, load=15pF and temperature variable speed less than 2°C per minute.
- Ageing: TA=25°C, Vs=3.3V, VC=1.5V and after 1hr of operation.
- Supply Voltage Variation (measurement referenced to frequency observed with TA=25°C, Vs varied from 3.13V to 3.47V, VC=1.5V and load=15pF): $\pm 0.1\text{ppm max}$
- Load Variation (measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.5V and load change=15pF $\pm 5\%$): $\pm 0.2\text{ppm max}$

Electrical Parameters

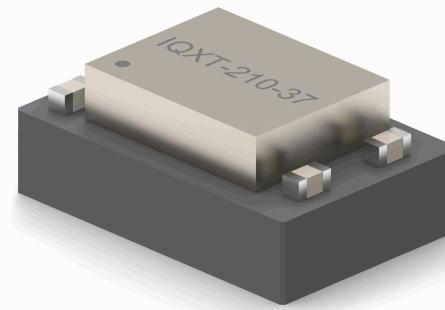
- Supply Voltage 3.3V $\pm 5\%$
- Current Draw 10.000mA
- Current Consumption (measurement observed with TA=25°C, Vs=3.3V, VC=1.5V and load=15pF): 10mA max

Frequency Adjustment

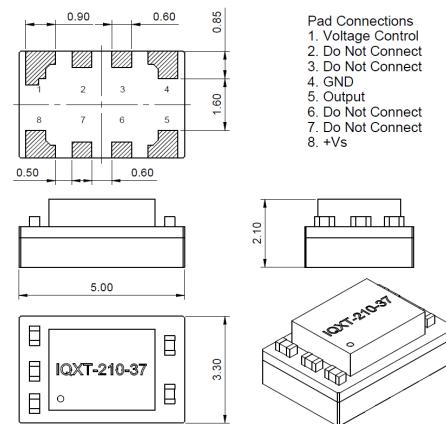
- Pulling $\pm 10\text{ppm min to } \pm 15\text{ppm max}$
- Control Voltage 1.5V $\pm 1.5\text{V}$
- Input Impedance 100kΩ min
- Linearity: 10% max
- Slope: Positive

Output Details

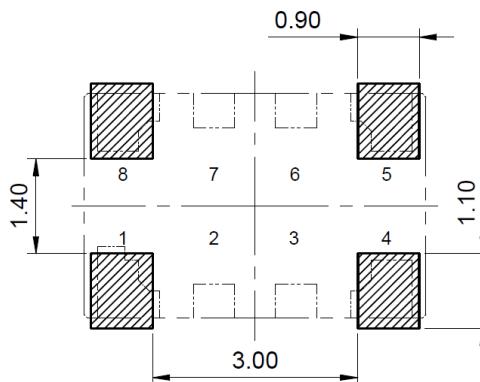
- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle 45/55%
- Output Voltage Levels (@ Vs=3.3V and load=15pF):
Output Low (VoL): 0.4V max
Output High (VoH): 2.4V min



Outline (mm)



Recommended Solder Pad Layout



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Noise Parameters

■ Phase Noise (typ @ 25°C):

-85dBc/Hz @ 10Hz
-115dBc/Hz @ 100Hz
-135dBc/Hz @ 1kHz
-148dBc/Hz @ 10kHz
-148dBc/Hz @ 100kHz
-150dBc/Hz @ 1MHz

■ Phase Noise (max @ 25°C):

-80dBc/Hz @ 10Hz
-110dBc/Hz @ 100Hz
-130dBc/Hz @ 1kHz
-143dBc/Hz @ 10kHz
-143dBc/Hz @ 100kHz
-145dBc/Hz @ 1MHz

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-A115C

■ 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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