

**Customer Part:**

**Description**

- Temperature compensated voltage controlled crystal oscillator (TCVCXO)
- Model IQXT-210-4
- Model Issue number 2

**Frequency Parameters**

- Frequency 20.0MHz
- Frequency Tolerance  $\pm 0.50$ ppm
- Tolerance Condition @ 25°C, 3.3V & VC=1.5V
- Frequency Stability  $\pm 0.14$ ppm
- Operating Temperature Range -40.00 to 85.00°C
- Ageing  $\pm 0.02$ ppm max per day,  $\pm 1$ ppm max per year
- 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 TA=25°C, Vs=3.3V, VC=1.5V, load=10kΩ//10pF 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=10kΩ//10pF):  $\pm 0.1$ ppm max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.5V and load=10kΩ//10pF):  $\pm 0.1$ ppm max
- Short Term Stability (@ 25°C after 10mins power on): 5E-10/s typ @ 10MHz

**Electrical Parameters**

- Supply Voltage 3.3V  $\pm 5\%$
- Current Draw 10.000mA
- Current: TA=25°C, Vs=3.3V, VC=1.5V and load=10kΩ//10pF

**Frequency Adjustment**

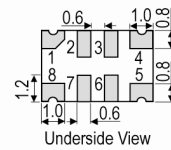
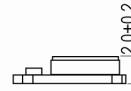
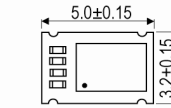
- Pulling  $\pm 10$ ppm to  $\pm 15$ ppm
- Control Voltage 1.5V  $\pm 1.5$ V
- Linearity:  $\pm 10\%$  max
- Slope: Positive
- Input Impedance: 100kΩ min

**Output Details**

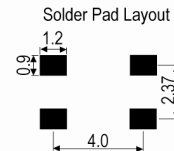
- Output Compatibility Clipped Sine
- Drive Capability 10kΩ//10pF
- Output Levels: 0.8V pk-pk min

**Noise Parameters**

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

**Outline (mm)**


- Pad Connections
1. Voltage Control
  2. N/C
  3. N/C
  4. GND
  5. Output
  6. N/C
  7. N/C
  8. +Vs


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**Customer Part:****Environmental Parameters**

- Storage Temperature Range: -55 to 105°C
- ESD Level:  
HBM, Class 2: 2000V to 4000V, JEDEC JS-001-2010  
Machine Model, Class B: 200V to 400V, JEDEC JS-001-2010
- 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

**Manufacturing Details**

- Moisture Sensitivity Level: 2
- Maximum Reflow Temperature: 260°C (30secs max)

**Compliance**

- RoHS Status (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    2

**Packaging Details**

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

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