

**Customer Part:**

**Description**

- Voltage Controlled Temperature Compensated Crystal Oscillator (TVXO)
- Model IQXT-200-45
- Model Issue number 1

**Frequency Parameters**

- Frequency 10.0MHz
- Frequency Tolerance  $\pm 1.00$ ppm
- Frequency Stability  $\pm 0.05$ ppm
- Operating Temperature Range -40.00 to 105.00°C
- Ageing  $\pm 0.01$ ppm max per day,  $\pm 1$ ppm max/year
- Frequency Tolerance (measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.65V 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=1.65V, load=15pF and temperature variable speed less than 2°C per minute.
- Ageing: TA=25°C, Vs= 3.3V, VC=1.65V 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=1.65V and load=15pF):  $\pm 0.05$ ppm max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.65V and load=15pF):  $\pm 0.05$ ppm max

**Electrical Parameters**

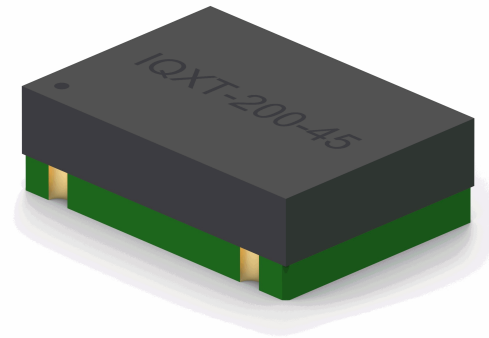
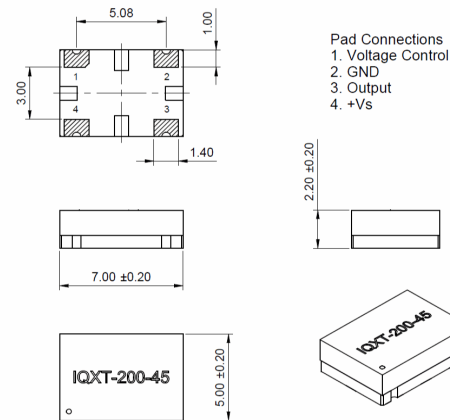
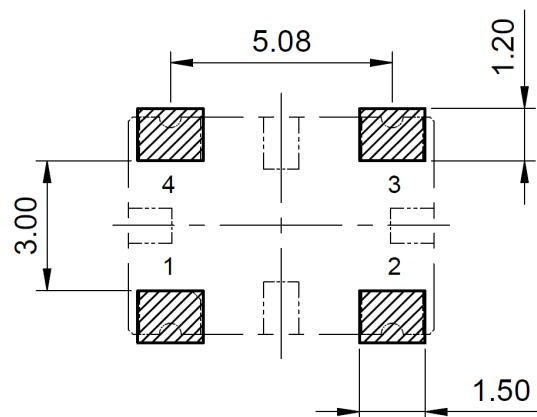
- Supply Voltage 3.3V  $\pm 5\%$
- Current Draw 10.000mA max
- Current: @ TA=25°C, Vs=3.3V, VC=1.65V and load=15pF

**Frequency Adjustment**

- Pulling  $\pm 8$ ppm min
- Control Voltage 1.65V  $\pm 1.65$ V
- Input Impedance 100k $\Omega$  min
- Linearity:  $\pm 10\%$  max
- Slope: Positive

**Output Details**

- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 5.0ns max
- Duty Cycle 45/55% max
- 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**

**Sales Office Contact Details:**

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**Customer Part:****Noise Parameters**

- Phase Noise (typ @ 25°C):
  - 85dBc/Hz @ 10Hz
  - 115dBc/Hz @ 100Hz
  - 140dBc/Hz @ 1kHz
  - 150dBc/Hz @ 10kHz
  - 152dBc/Hz @ 100kHz
  - 155dBc/Hz @ 1MHz
- Phase Noise (max @ 25°C):
  - 80dBc/Hz @ 10Hz
  - 110dBc/Hz @ 100Hz
  - 135dBc/Hz @ 1kHz
  - 145dBc/Hz @ 10kHz
  - 148dBc/Hz @ 100kHz
  - 150dBc/Hz @ 1MHz

**Environmental Parameters**

- Storage Temperature Range: -55 to 105°C
- ESD Level:
  - Human Body Model: Class 2: 2000V to 4000V, JEDEC JS-001-2010
  - Machine Model: Class B: 200V to 400V, JEDEC JESD22-A115C
- Shock: 100g, 6ms, half sine wave (3 times for each 3 directions X , Y , Z), IEC 68-2-27 Test Ea/Severity 50A
- Vibration: Test Condition: 0.75mm, acceleration 10g, 10Hz~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X , Y , Z). IEC 68-2-06 Test Fc
- RoHS Terminations
- RoHS Reflow Temp                                  260°C for 30s max

**Compliance**

- RoHS Status (2015/863/EU)                  Compliant
- REACH Status    Compliant
- MSL Rating (JDEC-STD-033):                  3

**Packaging Details**

- Pack Style: Reel        Tape & reel in accordance with EIA-481-D  
Pack Size: 600
- Alternative packing option available*

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