



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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**Description**

- Temperature compensated crystal oscillator (TCXO) in a hermetically sealed 3.2x2.5mm SMD package.
- Model IQXT-220-1
- Model Issue number 1

**Frequency Parameters**

- Frequency 12.80MHz
- Frequency Tolerance  $\pm 1.00$ ppm
- Frequency Stability  $\pm 0.28$ ppm
- Operating Temperature Range  $-40.00$  to  $85.00^{\circ}\text{C}$
- Ageing  $\pm 0.02$ ppm max/day,  $\pm 1$ ppm max/year
- Frequency Tolerance: Measurement referenced to frequency observed with  $T_A=25^{\circ}\text{C}$ ,  $V_s=3.3\text{V}$  and load= $10\text{k}\Omega//10\text{pF}$ , within 30 days after ex-works.
- Frequency Stability:  $T_A$  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= $10\text{k}\Omega//10\text{pF}$  and temperature variable speed less than  $2^{\circ}\text{C}/\text{min}$ .
- Ageing:  $V_s$ ,  $T_A$  and load constant, measurement referenced to frequency observed with  $T_A=25^{\circ}\text{C}$ ,  $V_s=3.3\text{V}$ , load= $10\text{k}\Omega//10\text{pF}$  and after 1hr of operation.
- Supply Voltage Variation (measurement referenced to frequency observed  $T_A=25^{\circ}\text{C}$ ,  $V_s$  varied from 3.13V to 3.47V and load= $10\text{k}\Omega//10\text{pF}$ ):  $\pm 0.1$ 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= $10\text{k}\Omega//10\text{pF} \pm 5\%$ ):  $\pm 0.1$ ppm max

**Electrical Parameters**

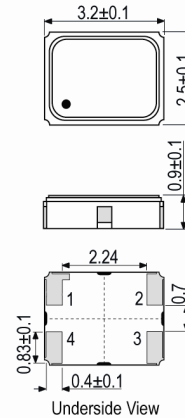
- Supply Voltage  $3.3\text{V} \pm 5\%$
- Current Draw 5.000mA
- Current Consumption (@  $T_A=25^{\circ}\text{C}$ ,  $V_s=3.3\text{V}$  and load= $10\text{k}\Omega//10\text{pF}$ ): 5mA max

**Output Details**

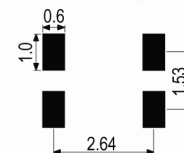
- Output Compatibility Clipped Sine
- Drive Capability  $10\text{k}\Omega//10\text{pF}$
- Output Voltage Level: 0.8V pk-pk min

**Noise Parameters**

- Phase Noise @  $25^{\circ}\text{C}$  ( $F=10.0\text{MHz}$ , typ):
  - 90dBc/Hz @ 10Hz
  - 120dBc/Hz @ 100Hz
  - 140dBc/Hz @ 1kHz
  - 145dBc/Hz @ 10kHz
  - 148dBc/Hz @ 100kHz


**Outline (mm)**

**Pad Connections**

1. N/C
2. GND
3. Output
4. +Vs

**Solder Pad Layout**

**Sales Office Contact Details:**

UK: +44 (0)1460 270200  
 Germany: 0800 1808 443

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 USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
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**Environmental Parameters**

- Operable Temperature Range: -40 to 85°C
- 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.

**Manufacturing Details**

- Storage Conditions:  
Temperature: -10 to 35°C  
Humidity: 20 to 70% RH
- Maximum Process Temperature: 260°C (30secs max)

**Compliance**

- RoHS Status (2011/65/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

**Packaging Details**

- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 1,400
- *Alternative packing option available*

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