

**Customer Part:**

**Description**

- IQXT-225 is a 2.0 x 1.6mm SMD Temperature Compensated Crystal Oscillator (TCXO) in a hermetically sealed package with E/D on pad 1 for low power operation.
- Model IQXT-225-12
- Model Issue number 1
- Developed frequencies: 16.368, 16.369, 19.2, 26.0, 33.6 and 38.4MHz

**Frequency Parameters**

- Frequency 38.40MHz
- Frequency Tolerance Max  $\pm 1.50$ ppm
- Frequency Stability  $\pm 0.50$ ppm
- Operating Temperature Range -30.00 to 85.00°C
- Ageing  $\pm 1$ ppm max per year @ 25°C  $\pm 2^\circ\text{C}$
- Frequency Tolerance: @ 25°C  $\pm 2^\circ\text{C}$  referred to nominal frequency before reflow soldering.
- Supply Voltage Variation (@  $\pm 5\%$  change):  $\pm 0.1$ ppm max
- Load Variation (@  $\pm 10\%$  change):  $\pm 0.1$ ppm max
- Reflow Variation (at 25°C  $\pm 2^\circ\text{C}$  referred to frequency before reflow):  $\pm 1$ ppm max, 24 hrs after reflow.

**Electrical Parameters**

- Supply Voltage 1.2V  $\pm 5\%$
- Current Draw Max 1.700mA
- Absolute Maximum Ratings:  
Supply Voltage: -0.6V to 4.6V  
E/D Control Voltage: -0.6V to Vs+0.6V (4.6V max)

**Output Details**

- Output Compatibility Clipped Sine
- Drive Capability 10k $\Omega$ /10pF  $\pm 10\%$
- Output: DC coupled  
Note: a 1000pF DC-cut capacitor is to be connected in the output line of the TCXO.
- Output Level: 0.8V pk-pk min
- Start Up Time: Vout  $\geq 90\%$  of V pk-pk: 2ms max
- Start Up Time (within  $\pm 0.5$ ppm): 2ms max

**Output Control**

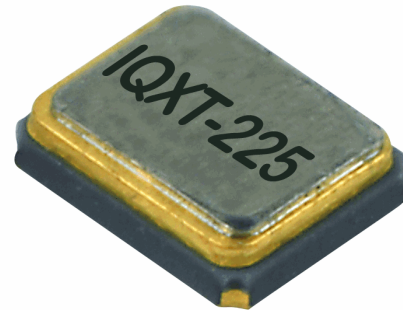
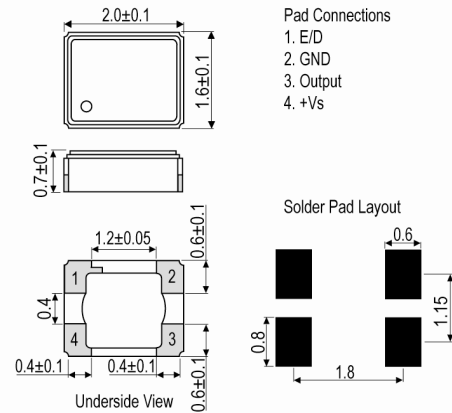
- Enable/Disable (pad 1):  
Logic '1' (80%Vs min) or no connection to pad 1 enables the oscillator output.  
Logic '0' (20%Vs max) to pad 1 disables the oscillator output, the output goes to a high impedance state.  
Disable current in E/D mode: 3 $\mu$ A max

**Noise Parameters**

- Phase Noise (typ): -135dBc/Hz @ 1kHz

**Environmental Parameters**
**Manufacturing Details**

- RoHS Terminations NiAu
- RoHS Reflow Temp +250°C  $\pm 10^\circ\text{C}$  for 10 sec max


**Outline (mm)**

**Sales Office Contact Details:**

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**Customer Part:****Compliance**

- RoHS Status (2015/863/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: 3,000
- *Alternative packing option available*

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