

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

**Electrical Parameters**

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

**Output Details**

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

**Output Control**

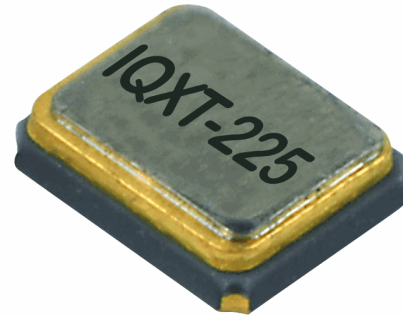
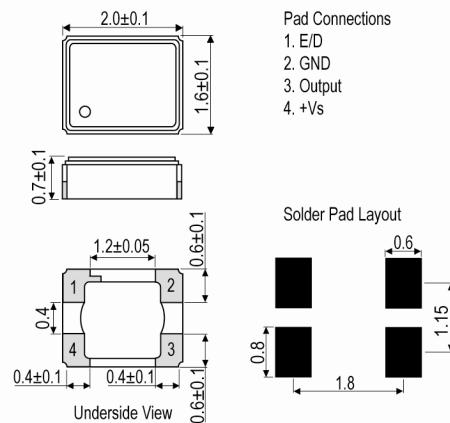
- Enable/Disable (pad 1):  
Logic '1' ( $80\%V_s$  min) or no connection to pad 1 enables the oscillator output.  
Logic '0' ( $20\%V_s$  max) to pad 1 disables the oscillator output, the output goes to a high impedance state.  
Disable current in E/D mode:  $3\mu\text{A}$  max

**Noise Parameters**

- Phase Noise (typ):  $-135\text{dBc}/\text{Hz}$  @  $1\text{kHz}$

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

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


**Outline (mm)**

**Sales Office Contact Details:**

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**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: 3,000
- *Alternative packing option available*

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