

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 16.3690MHz
- Frequency Tolerance Max $\pm 1.50\text{ppm}$
- Frequency Stability $\pm 0.50\text{ppm}$
- Operating Temperature Range -30.00 to 85.00°C
- Ageing $\pm 1\text{ppm}$ max per year @ 25°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 1.700mA
- Absolute Maximum Ratings:
Supply Voltage: -0.6V to 4.6V
E/D Control Voltage: -0.6V to $V_s + 0.6\text{V}$ (4.6V max)

Output Details

- Output Compatibility Clipped Sine
- Drive Capability $10\text{k}\Omega / 10\text{pF} \pm 10\%$
- 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: $V_{\text{out}} \geq 90\%$ of V pk-pk: 2ms max
- Start Up Time (within $\pm 0.5\text{ppm}$): 2ms max

Output Control

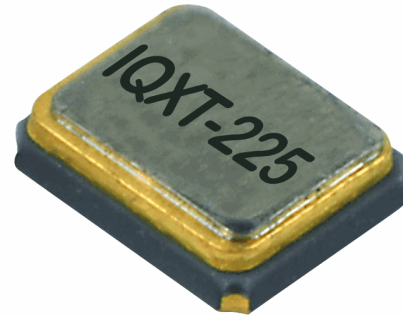
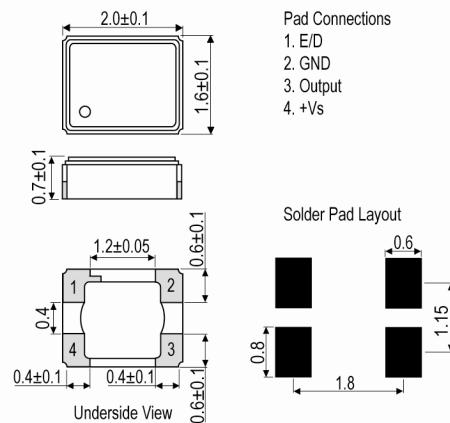
- Enable/Disable (pad 1):
Logic '1' ($80\%V_s$ min) or no connection to pad 1 enables the oscillator output.
Logic '0' ($20\%V_s$ max) to pad 1 disables the oscillator output, the output goes to a high impedance state.
Disable current in E/D mode: $3\mu\text{A}$ max

Noise Parameters

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

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)

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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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