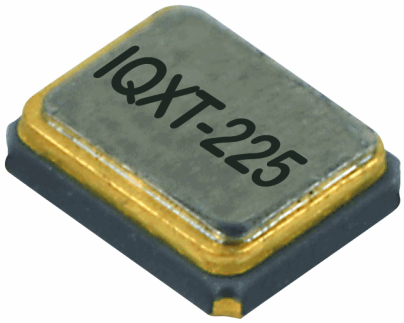
**ISSUE 1; February 2018**

## Description

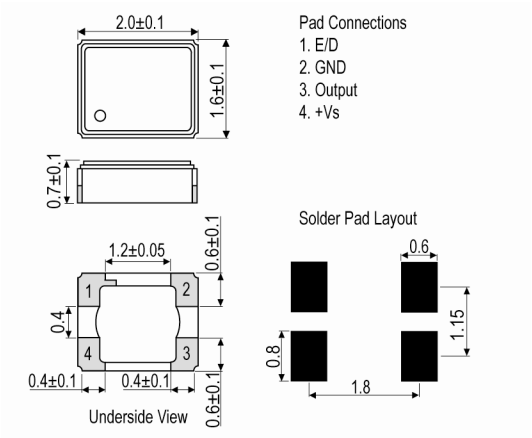
- IQXT-225 is a 2.0 x 1.6mm SMD Temperature Compensated Crystal Oscillator (TCXO) in a hermetically sealed package with E/D on pad 1 for low power operation.
- Developed frequencies: 16.368, 16.369, 19.2, 26.0, 33.6 and 38.4MHz




## Frequency Parameters

- Frequency 16.368MHz to 38.4MHz
- Frequency Tolerance Max ±1.50ppm
- Frequency Stability ±0.50ppm
- Ageing ±1ppm max per year @ 25°C ±2°C
- Frequency Tolerance: @ 25°C ±2°C referred to nominal frequency before reflow soldering.
- Supply Voltage Variation (@ ±5% change): ±0.1ppm max
- Load Variation (@ ±10% change): ±0.1ppm max
- Reflow Variation (at 25°C ±2°C referred to frequency before reflow): ±1ppm max, 24 hrs after reflow.

**Outline (mm)**




## Electrical Parameters

- Supply Voltage 1.2V ±5%
- Absolute Maximum Ratings:
  Supply Voltage: -0.6V to 4.6V
  E/D Control Voltage: -0.6V to Vs+0.6V (4.6V max)

## Operating Temperature Ranges

- -30 to 85°C

## Output Details

- Output Compatibility Clipped Sine
- Drive Capability 10kΩ//10pF ±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 ≥90% of V pk-pk: 2ms max
- Start Up Time (within ±0.5ppm): 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: 3µA max

## Noise Parameters

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

## Environmental Parameters

- Storage Temperature Range: -40 to 85°C

## Manufacturing Details

- RoHS Terminations NiAu
- RoHS Reflow +250°C ±10°C for 10 sec max

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## Ordering Information

- *Minimum info required
  Frequency*
  Model*
  Output
  Frequency Stability (over operating temperature range)*
  Operating Temperature Range*
  Supply Voltage
- Example
  26.0MHz IQXT-225-12
  Clipped Sine ±0.5ppm –30 to 85C 1.2V

## 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
- Pack Style: Cutt Cut tape
  Pack Size: 100

**Electrical Specification - maximum limiting values 1.2V ±5%**

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Current Draw | Rise and Fall Time | Duty Cycle |
|---|---|---|---|---|---|---|
| | | °C | ppm | mA | ns | % |
| 16.368MHz | 38.4MHz | -30 to 85 | ±0.5 | 1.7 | - | - |

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