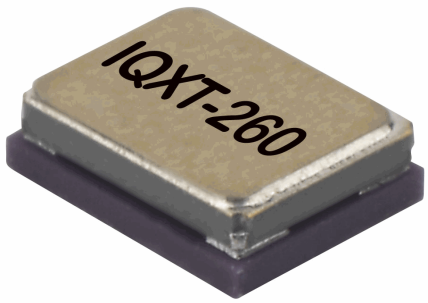
TCXO Specification

Part No. + Packaging: ***LFTCXO070032Reel***

Description

- The IQXT-260-10 employs an analogue ASIC for the oscillator and a high-order temperature compensation circuit in a 2.5 x 2.0mm size package.
- Model IQXT-260-10
- Model Issue number 1



Frequency Parameters

- Frequency 26.0MHz
- Frequency Tolerance ±1.00ppm
- Tolerance Condition @ 25°C ±2°C
- Frequency Stability ±0.50ppm
- Operating Temperature Range -40.00 to 85.00°C
- Ageing ±1ppm max over 1yr @ 25°C
- Frequency Stability: TA varied over operating temperature range, measurement referenced to frequency observed with Fref=(Fmax+Fmin)/2, Vs=1.8V and load=10kΩ//10pF.
- Frequency Slope (minimum of one frequency reading every 2°C over the operating temperature range): 0.1ppm/°C max
- Static Temperature Hysteresis (frequency change after reciprocal temperature ramped over the operating range - frequency measured before and after @ 25°C): 0.6ppm max
- Frequency Drift on Power Up:
  Drift Period 0.03 to 1.0 second: 500ppb/s max
  Drift Period 1.0 to 2.0 seconds: 40ppb/s max
  Drift Period 2.0 to 3.0 seconds: 2.5ppb/s max
- Supply Voltage Variation (±5% change @ 25°C): ±0.1ppm max
- Load Variation (±10% change @ 25°C): ±0.2ppm max
- Reflow Variation (after two consecutive reflows as per profile shown and 1hr recovery @ 25°C): ±1ppm max
- Note: Parts should be shielded from drafts causing unexpected thermal gradients. Temperature changes due to ambient air currents can lead to short term frequency drift.

Electrical Parameters

- Supply Voltage 1.8V ±5%
- Current Draw 1.50mA
- Supply Current (@ TA=25°C, Vs max and load=10kΩ//10pF): 1.5mA max

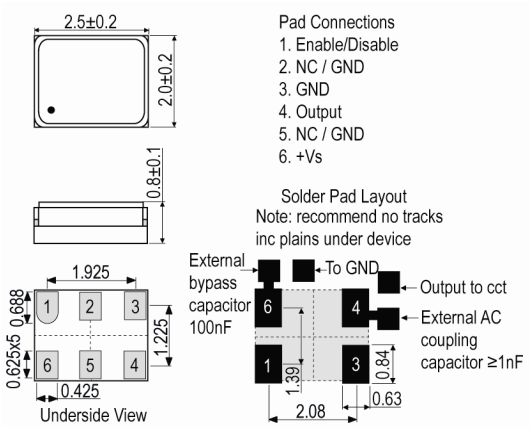
Output Details

- Output Compatability Clipped Sine
- Drive Capability 10kΩ//10pF ±10%
- Output Voltage Level (@ TA=25°C, Vs min and load=10kΩ//10pF): 0.8V pk-pk min
- Start Up Time (amplitude within 90% of specified output level): 0.5ms max
- Start Up Time (frequency within ±0.5ppm of steady state frequency): 1.5ms max
- Output: DC coupled
- Note: AC-coupled output requires an external capacitor, ≥1nF recommended.

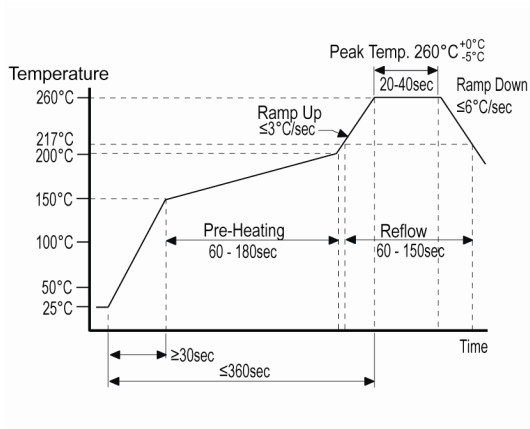
Output Control

- Power Down Mode:
  Logic '0' (10%Vs max) to pad 1 disables oscillator output.
  Logic '1' (90%Vs min) to pad 1 enables oscillator output.

Outline (mm)



Pb-Free Reflow



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Noise Parameters

- Phase Noise @ 25°C (typ):
  -64dBc/Hz @ 1Hz
  -92dBc/Hz @ 10Hz
  -115dBc/Hz @ 100Hz
  -135dBc/Hz @ 1kHz
  -149dBc/Hz @ 10kHz

Environmental Parameters

- Storage Temperature Range: -40 to 85°C
- Shock: JESD22-B104-C: Half sine wave acceleration of 1500G peak amplitude for 0.5ms duration, 5 times in 3 mutually perpendicular planes.
- Vibration: JESD22-B103-B: 20G peak acceleration for 4mins, 4 cycles in each of the 3 orientations, tested from 20-2000Hz.
- Moisture Resistance: MIL-STD-202 M106g: 1000hrs @ 85°C, 85% RH, biased.
- Thermal Cycling: JESD22 Method JA-104C: 1000 temperature cycles, where each cycle consists of a 25mins soak time @ -40°C followed by a 25mins soak time @ 85°C, with a 60secs maximum transition time between temperatures, air to air transition.
- Note: Frequency shift ≤1ppm after environmental conditions.

Manufacturing Details

- Maximum Process Temperature: 260°C (40secs 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: 3,000
- *Alternative packing option available*

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