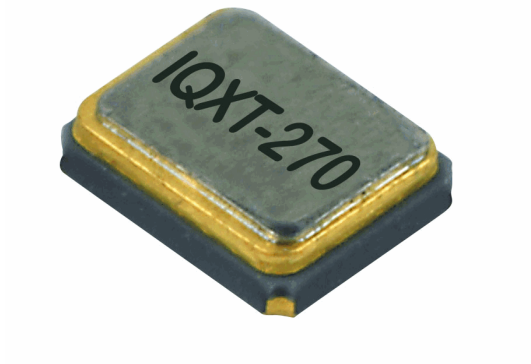
TCXO Specification

Part No. + Packaging: ***LFTCXO070163Cutt***

Description

- The IQXT-270-6 temperature compensated crystal oscillator (TCXO) employs an analogue ASIC for the oscillator and a high order temperature compensation circuit in a 2.0 x 1.6mm size package.
- Model IQXT-270-6
- Model Issue number 1



Frequency Parameters

- Frequency 26.0MHz
- Frequency Tolerance ±1.00ppm
- Frequency Stability ±0.50ppm
- Operating Temperature Range -30.00 to 85.00°C
- Ageing ±1ppm max per year at 25°C
- Frequency Tolerance: Offset from nominal frequency measured at 25˚C ±2˚C.
- Reflow Shift (two consecutive reflows as per profile after 1 hour relaxation at 25°C): ±1ppm max
- Frequency Stability: Referenced to the midpoint between minimum and maximum frequency value over the specified temperature range (note 1).
- Frequency Slope (minimum of one frequency reading every 2°C, over -20 to 70°C - note 1): 0.05ppm/°C max
- Frequency Slope (minimum of one frequency reading every 2°C, over -30°C to -20°C and 70°C to 85°C - note 1): 0.1ppm/°C max
- Static Temperature Hysteresis (frequency change after reciprocal temperature ramped over the operating range, frequency measured before and after at 25°C): ±0.6ppm max
- Supply Voltage Variation (±5% change at 25°C): ±0.1ppm max
- Load Variation (±10% change at 25°C - note 2): ±0.2ppm max

Electrical Parameters

- Supply Voltage 1.8V ±5%
- Current Draw 1.50mA
- Supply Current (at Vs max - note 2): 1.5mA max

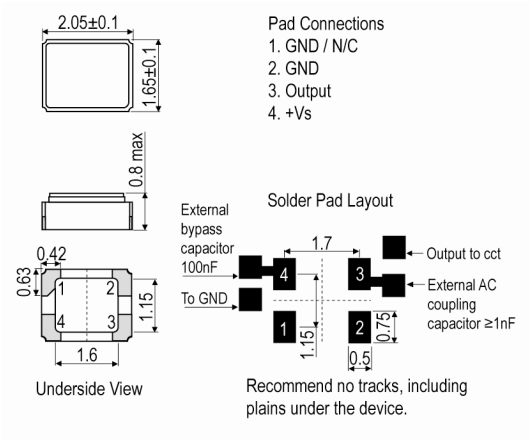
Output Details

- Output Compatability Clipped Sine
- Drive Capability 10kΩ//10pF ±10%
- Output Voltage Level (at Vs min - note 2): 0.8V pk-pk min
- Output: DC coupled (note 3)

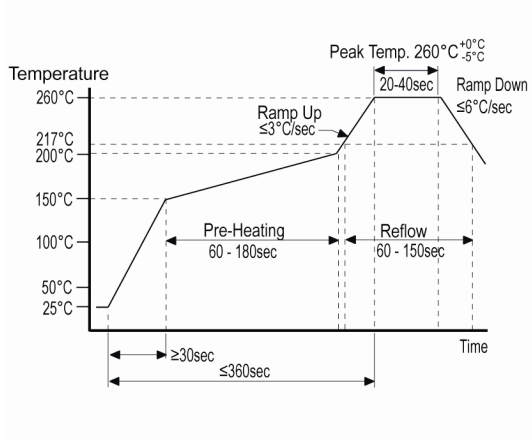
Noise Parameters

- Phase Noise at 25˚C (typical):
  -62dBc/Hz @ 1Hz
  -90dBc/Hz @ 10Hz
  -112dBc/Hz @ 100Hz
  -132dBc/Hz @ 1kHz
  -145dBc/Hz @ 10kHz
  -147dBc/Hz @ 100kHz

Outline (mm)



Pb-Free Reflow



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Environmental Parameters

- Shock: MIL-STD-202 M213 (note 4): Half sine-wave acceleration of 3000G peak amplitude, duration 0.3ms, velocity 12.3ft/s.
- Moisture Resistance: MIL-STD-202 M106g (note 4): 1000 hours at 85°C, 85% relative humidity. Biased.
- Thermal Cycling: JESD22 Method JA-104C (note 4): 1000 temperature cycles, where each cycle consists of a 25 minutes soak time at -40°C followed by a 25 minute soak time at 85°C, with a 60 second maximum transition time between temperatures. Air to air transition.
- Vibration: JESD22-B103-B (also see note 4): 10G peak acceleration for 20 minutes 12 cycles in each of the 3 orientations, swept from 10-2000Hz.
- Storage Temperature Range: -40 to 85°C

Manufacturing Details

- Maximum Process Temperature: 260˚C (40secs max)
- Note 1: Parts should be shielded from drafts causing unexpected thermal gradients. Temperature changes due to ambient air currents can lead to short term frequency drift.
- Note 2: Specified for the load stated in Output Details above, at 25°C.
- Note 3: External AC coupling capacitor required; 1nF or greater recommended.
- Note 4: Frequency shift of ±1ppm max after environmental conditions.

Compliance

RoHS Status (2011/65/EU)	Compliant
REACh Status	Compliant
MSL Rating (JDEC-STD-033):	Not Applicable

Packaging Details

- Pack Style: Cutt — In tape, cut from a reel
  Pack Size: 100
- *Alternative packing option available*

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