TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

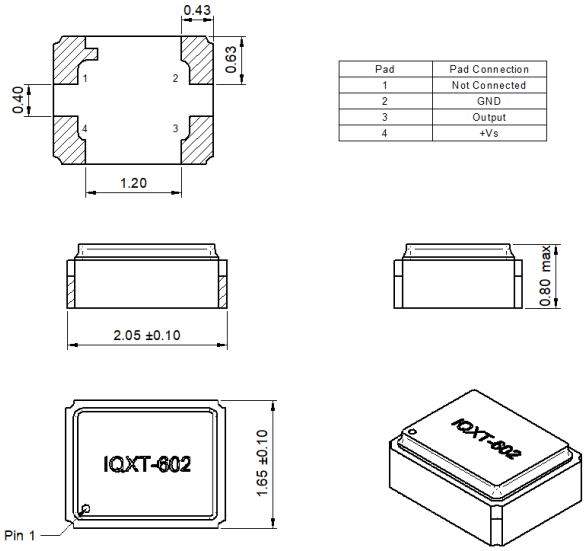
Part Number: 830410004701 | IQXT-602

AKA Number: LFTCXO100047

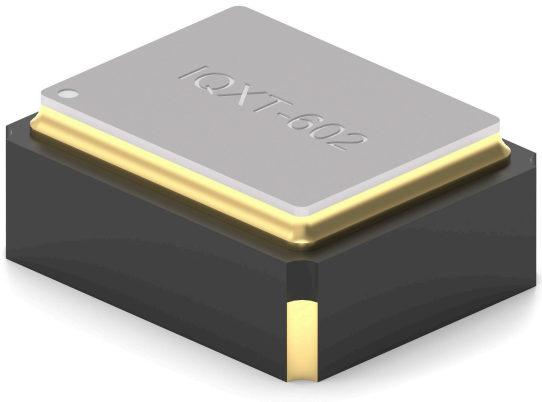
General Information

Surface mount temperature compensated crystal oscillator (TCXO) in a miniature ceramic package with a Clipped Sine Wave output.

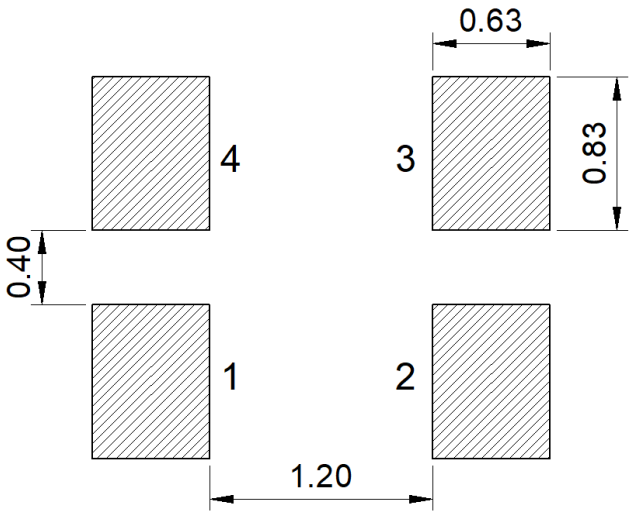
Dimensions [mm]



Pad	Pad Connection
1	Not Connected
2	GND
3	Output
4	+Vs



Recommended Land Pattern [mm]



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Frequency Parameters

Frequency	24.0 MHz
Frequency Tolerance	± 1.5 ppm @ 25 °C ± 2 °C
Frequency Stability	± 0.5 ppm max.
Operating Temperature	-40 °C to 85 °C
Ageing	± 1 ppm max. first year

- Frequency Tolerance: 2 hours, after 2 times reflow soldering, based on nominal frequency.
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with fref = (fmax + fmin) /2, Vs = 3.3 V, load = 10 kΩ // 10 pF and temperature variable speed less than 2 °C per minute.
- Supply Voltage Variation (measurement referenced to frequency observed with TA = 25 °C, Vs = 3.3 V ± 5 % and load = 10 kΩ // 10 pF): ± 0.1 ppm max.
- Load Variation (10 % load change, measurement referenced to frequency observed with TA = 25 °C, Vs = 3.3 V and load change = 10 kΩ // 10pF): ± 0.1 ppm max.
- Ageing: TA = 25 °C, Vs = 3.3 V and after 1 hour of operation.

Output Details

Output Compatibility	Clipped sine
Drive Capability	10 kΩ // 10 pF

Output Voltage Levels:
Output Low (VoL): 0.8 Vp-p min.
Output High (VoH): 1.2 Vp-p max.

Material Parameters

Termination Finish	Au Ni
Moisture Sensitivity Level (MSL)	3

Manufacturing Details

Reflow: 260 °C max. for 30 seconds max.

Electrical Parameters

Supply Voltage	1.71 V to 3.63 V
Current Consumption	2 mA max.

- Current consumption @ 25 °C, Vs = 3.3 V and load = 10 kΩ // 10 pF
- Start up time (more than 90 % of final output voltage): 2 ms max.

Noise Parameters

- Phase Noise (max.) @ 25 °C ± 2 °C
  - 45 dBc/Hz @ 1 Hz
  - 80 dBc/Hz @ 10 Hz
  - 111 dBc/Hz @ 100 Hz
  - 135 dBc/Hz @ 1 kHz
  - 145dBc/Hz @ 10 kHz
  - 152dBc/Hz @ 100 kHz
  - 154dBc/Hz @ 1 MHz
- Spurious Suppression: -8 dBc max.

Environmental Parameters

Storage Temperature Range: -55 °C to 105 °C

- Vibration: IEC 68-2-06 Test Fc. Test Condition: 0.75 mm; acceleration (10 Hz ~ 2000 Hz), 10 g, 1 cycle per 30 minutes, test 2 hours (3 times for each of the 3 directions, X, Y, Z).
- Shock: IEC 68-2-27 Test Ea/Severity 50 A: 100 g; 6 ms; half sine wave (3 times for each of the 3 directions X, Y, Z).

Technical Standards

RoHS Status	2015/863/EU - Compliant
REACH Status	(EC)1907/2006 - Compliant
ESD	4000 V Human Body Model 400 V Machine Model

Packaging Details

Packaging SPQ	Tape & Reel 3000 pcs

Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape.

Technical Notes

Current Consumption: 2 mA max.

Company Address

IQD Frequency Products Ltd.

Station Road

Crewkerne

Somerset

TA18 8AR, United Kingdom