TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

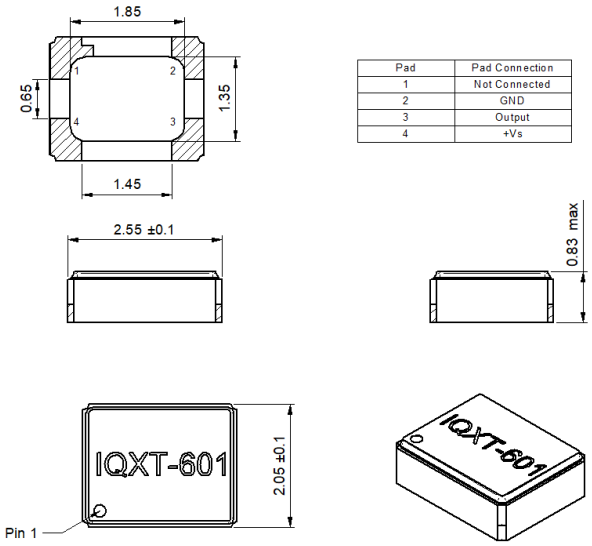
Part Number: 830410002301 | IQXT-601

AKA Number: LFTCXO100023

General Information

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

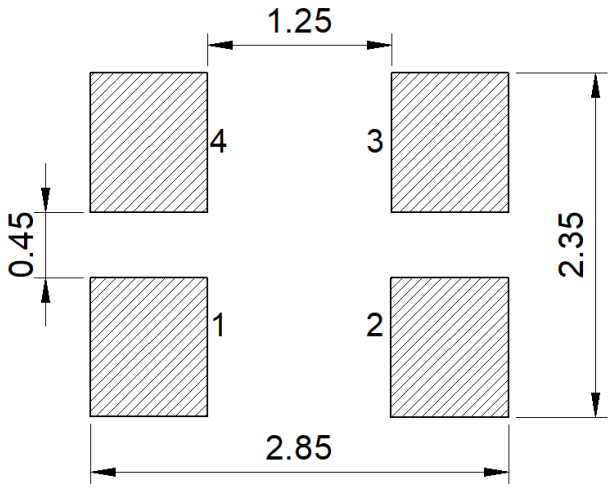
Dimensions [mm]



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



Recommended Land Pattern [mm]



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Frequency Parameters

Frequency	20.0 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 // 10pF
- 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
-145 dBc/Hz	10 kHz
-152 dBc/Hz	100 kHz
-154 dBc/Hz	1 MHz

- Spurious Suppression: -8 dBc max.

Environmental Parameters

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

- 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).
- Vibration: IEC 68-2-06 Test Fc. Test Condition: 0.75 mm; acceleration: 10 g; 10 Hz ~ 2000 Hz, one cycle per 30 minutes, test 2 hours. (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