

ISSUE 2; April 2024

Description

- Very low height 1.27 x 1.05mm SMD crystal in a hermetically sealed ceramic package with a sealed metal lid. Suitable for Real Time Clock applications.

Frequency Parameters

- Frequency: 32.768kHz
- Frequency Tolerance: $\pm 20.00\text{ppm}$
- Tolerance Condition: @ 25°C $\pm 5^\circ\text{C}$
- Ageing: $\pm 5\text{ppm}$ max in 1st year @ 25°C $\pm 3^\circ\text{C}$
- Turnover Temperature: 25°C $\pm 5^\circ\text{C}$
- Frequency Stability Coefficient: $(-0.036\text{ppm} \pm 10\%) / ^\circ\text{C}^2$

Electrical Parameters

- Load Capacitance (CL): 6.0pF to 12.5pF
- Shunt Capacitance (C0): 1.4pF typ
- Drive Level: 0.1 μW typ, 0.3 μW max

Operating Temperature Ranges

- 40 to 85°C

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: 100g dummy dropped 10 times in 3 axis from a height of 1500mm onto concrete.
- Vibration: 1.5mm amplitude, 10~60Hz, 15mins cycle time in X, Y and Z axis, 2hrs each axis.
- High Temperature Storage: 125°C for 1000hrs
- Low Temperature Storage: -55°C for 1000hrs
- Humidity: 85°C $\pm 2^\circ$ at 85% RH for 1000hrs
- Thermal Shock Resistance: -55°C to 125°C for 30mins, 100 cycles.

Manufacturing Details

- Note: the use of ultrasonic cleaning must be tested by the customer to check suitability as the device can be destroyed by this method depending upon the frequency, power, time and position in the bath.
- RoHS Terminations: AuNi
- RoHS Reflow: 250°C $\pm 10^\circ\text{C}$ for 10sec max.

Ordering Information

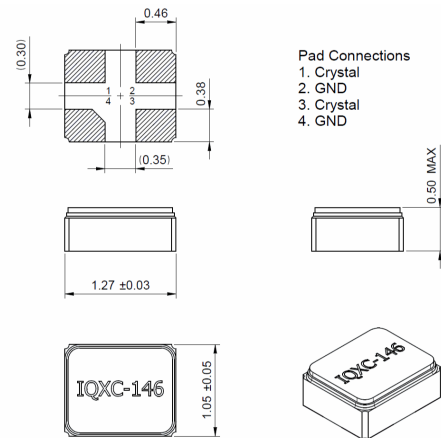
- Minimum required*
Frequency
Model*
Frequency Tolerance (@ 25°C)
Load Capacitance*
- Example
32.768kHz IQXC-146
20/-/12.5

Compliance

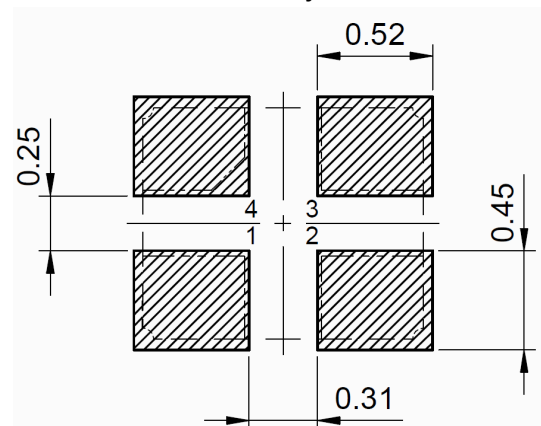
- RoHS Status (2015/863/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable



Outline (mm)



Recommended Solder Pad Layout



Sales Office Contact Details:

UK: +44 (0)1460 270200

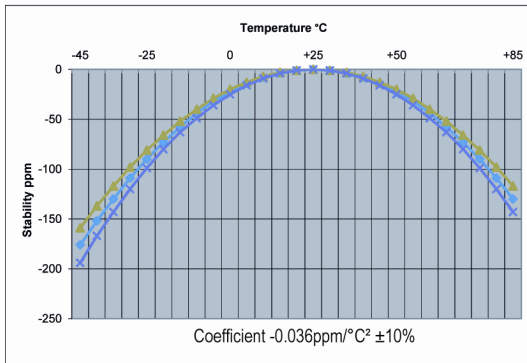
Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Packaging Details

- Tape & reel in accordance with EIA-481
 Quantities below the standard reel size to be supplied on cut tape.
 Standard Pack Quantity: 5,000

Example F/T Characteristics



Electrical Specification - maximum limiting values

Frequency	Temperature Range	Stability (Min)	Over Tone Order	ESR
	°C	ppm		Ω
32.768000kHz	-40 to 85	-	Fundamental	90,000

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