

ISSUE 2; June 2024

Description

- 1.6 x 1.0mm SMD crystal in a hermetically sealed ceramic package with low ESR. Suitable for real time clock applications.

Frequency Parameters

- Frequency: 32.768kHz
- Frequency Tolerance: $\pm 10.00\text{ppm}$ to $\pm 20.00\text{ppm}$
- Tolerance Condition: @ 25°C
- Ageing: $\pm 3\text{ppm}$ max in first year @ 25°C
- Turnover Temperature: 25°C $\pm 5^\circ\text{C}$
- Frequency Stability Coefficient: $-0.03\text{ppm} \pm 0.01\text{ppm}/^\circ\text{C}^2$

Electrical Parameters

- Load Capacitance (CL): 5.0pF to 12.5pF
- Shunt Capacitance (C0): 1.8pF max
- Drive Level: 0.5 μW max
- Shunt Capacitance (C0): 1.5pF typ
- Motional Capacitance (C1): 7.5fF typ
- ESR: 60K Ohms max @ +25°C
- ESR: 70K Ohms max over -40 to +85°C
- ESR: 75K Ohms max over -40 to +105°C

Operating Temperature Ranges

- 40 to 85°C
- 40 to 105°C

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock (JIS-C-60068-2-27): accelerate at 1000g, 1ms pulse duration, applied 3 times in each of the 3 perpendicular axes.
- Vibration (JIS-C-60068-2-6): sweep frequency from 10Hz to 55Hz and return to 10Hz in 1 minute at 1.5mm amplitude, 2 hours in each of the 3 perpendicular axes.

Manufacturing Details

- RoHS Terminations: Ni 2 μm min, Au 0.2 μm ~1.0 μm

Ordering Information

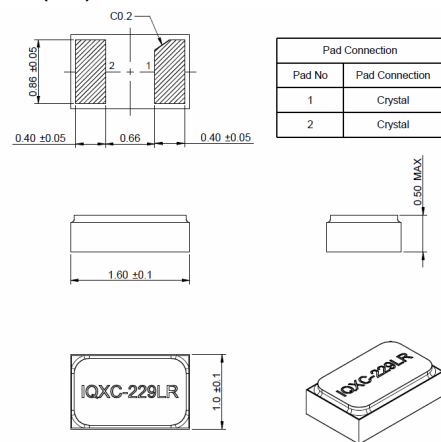
- Frequency Model*
- Frequency Tolerance (@ 25°C)*
- Load Capacitance* (*minimum required)
- Example: 32.768kHz IQXC-229LR 20/-/12.5

Compliance

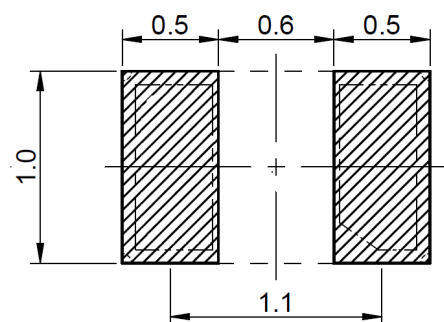
- RoHS Status (2015/863/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): 1



Outline (mm)



Recommended Solder Pad Layout



Sales Office Contact Details:

UK: +44 (0)1460 270200

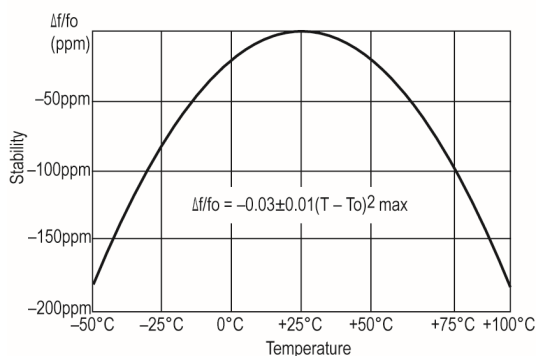
Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

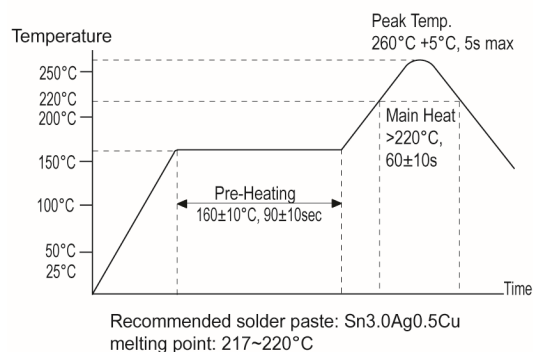
Packaging Details

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

Typical Frequency Stability Characteristics



Reflow Solder Profile



Electrical Specification - maximum limiting values

Frequency	Temperature Range	Stability	Over Tone Order	ESR
	°C	ppm		Ω
32.768000kHz	-40 to 85	-	Fundamental	70,000
	-40 to 105	-	Fundamental	75,000

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