

ISSUE 1; March 2019

Description

- The IQXC-136 is a low profile SMD AT-cut quartz crystal in a ceramic package with a 3.2 x 2.5mm footprint.
- Applications:
Feature phone
GPS
- Features:
Excellent shock and vibration performance
Low ageing

Frequency Parameters

- Frequency 16.0MHz to 40.0MHz
- Frequency Tolerance $\pm 10.00\text{ppm}$ to $\pm 50.00\text{ppm}$
- Tolerance Condition @ 25°C $\pm 2^\circ\text{C}$
- Frequency Stability $\pm 15.00\text{ppm}$ to $\pm 50.00\text{ppm}$
- Ageing $\pm 1\text{ppm}$ max per year @ 25°C
- Reflow shift (Two consecutive reflow as per profile after 4 hours recovery at 25°C): $\pm 1\text{ppm}$ max
- Frequency stability over temperature referenced to frequency reading at 25°C and the specified load capacitance.
- Frequency perturbations (Residual errors from the frequency versus temperature curve fitting 5th order. Minimum of 1 frequency reading every 3°C over operating temperature range): 0.1 to 1ppm
- Static temperature hysteresis (Frequency change after reciprocal temperature ramped over the operating range. Frequency measured before and after at 25°C): $\pm 0.4\text{ppm}$ max

Electrical Parameters

- Load Capacitance (CL) 5.0pF to 50.0pF
- Shunt Capacitance (C0) 0.5 to 3pF
- Drive Level 50µW max
- Load Capacitance Range: 5pF to 50pF
- Pullability (Load and crystal design dependant): 0.5ppm/pF min

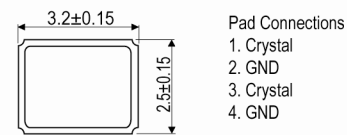
Operating Temperature Ranges

- -40 to 85°C
- -55 to 105°C

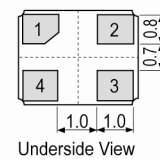
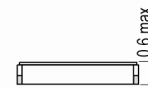
Environmental Parameters

- g Sensitivity Gamma vector of all three axes from 30Hz to 1500Hz: 2ppb/g max
- Insulation Resistance (100V $\pm 15\text{V}$ at 25°C): 500MΩ min
- Shock: Half sine-wave acceleration of 100G peak amplitude for 11ms duration, 3 cycles in each plane
- Moisture Resistance: Temperature: 40°C $\pm 2^\circ\text{C}$; Humidity : 90 ~ 95%; Time : for 240 hours; According to IEC 1178-1.4.8.15
- Thermal Shock: 100 temperature cycles, where each cycle consists of a 25 minute 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. According to IEC 1178-1.4.8.4
- Vibration: Frequency: 10~55Hz; Amplitude: 1.5mm; Period: 1min; Test time: X,Y,Z each direction 2hrs; According to IEC 1178-1.4.8.7
- Storage temperature: -40 to 85°C
- RoHS Terminations Au (0.1 min) over Ni (1.27~8.89µm)

Outline (mm) 0.6mm type 1

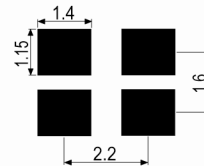


Pad Connections
1. Crystal
2. GND
3. Crystal
4. GND

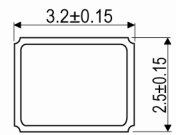


Underside View

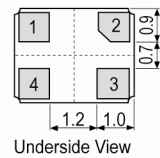
Solder Pad Layout



Outline (mm) 0.6mm type 2

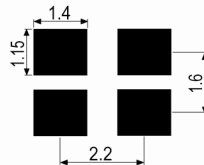


Pad Connections
1. Crystal
2. GND
3. Crystal
4. GND

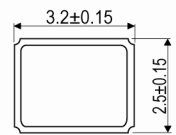


Underside View

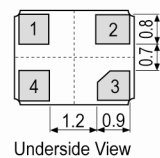
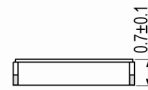
Solder Pad Layout



Outline (mm) = 0.7mm type 3

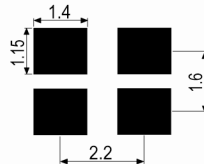


Pad Connections
1. Crystal
2. GND
3. Crystal
4. GND



Underside View

Solder Pad Layout



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Ordering Information

- *minimum information required
- Frequency*
- Model*
- Frequency Tolerance*
- Frequency Stability*
- Operating Temperature Range*
- Load Capacitance*

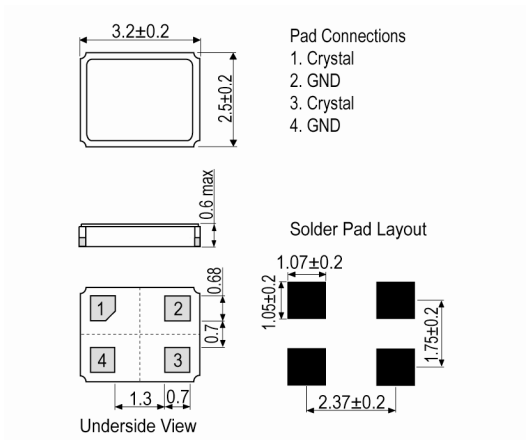
Compliance

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

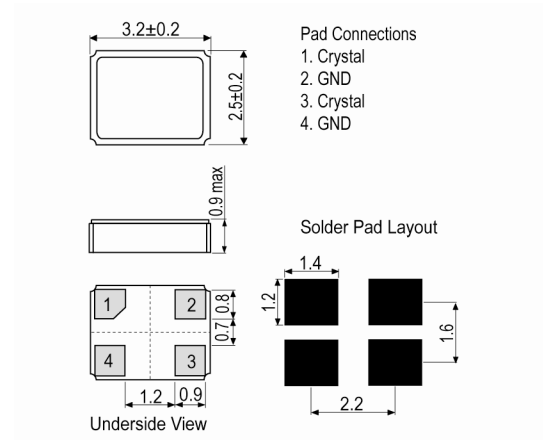
Packaging Details

- Pack Style: Reel Tape & Reel in accordance with
- Pack Size: 3,000 EIA-481-D

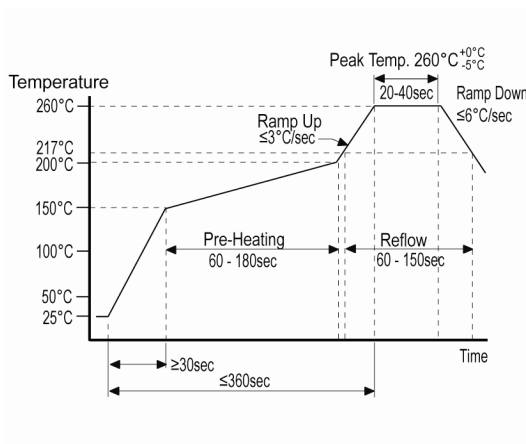
Outline (mm) = 0.6mm type 4



Outline (mm) = 0.9mm type 5



Pb-Free Reflow



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Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
16.0MHz	40.0MHz	-40 to 85 -55 to 105	±15 ±20	Fundamental	60

**Stability Maximum values ±50ppm*

This document was correct at the time of printing; please contact your local sales office for the latest version.

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