

ISSUE 1; October 2017

Description

- The IQXC-138 is a low profile SMD AT-cut quartz crystal in a ceramic package with a 2.0 x 1.6mm footprint.
- Applications:
 - Automotive
 - GPS
 - Communications
 - Feature phone
 - Consumer
- Features:
 - Low ageing
 - Low hysteresis
 - Wide temperature range

Frequency Parameters

- Frequency: 19.2MHz to 52.0MHz
- 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 (Peak-to-peak deviation from the frequency versus temperature curve fit 5th order. Minimum of 1 frequency reading every 3°C over operating temperature range): 1ppm max
- Pullability (load and frequency dependant): 0.5ppm/pF min

Electrical Parameters

- Load Capacitance (CL): 5.0pF to 32.0pF
- Shunt Capacitance (C0): 0.5 to 3pF
- Drive Level: 30µW max

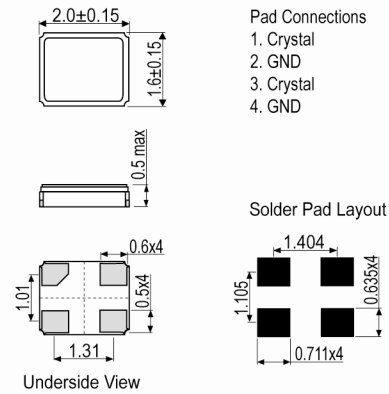
Operating Temperature Ranges

- -40 to 85°C

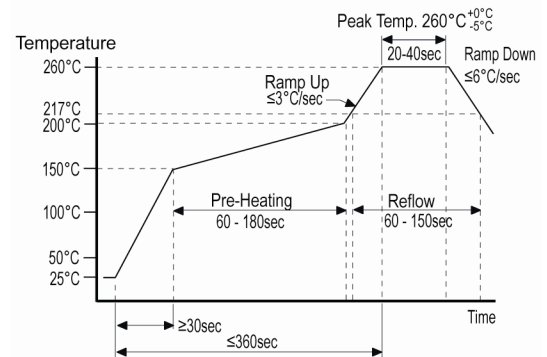
Environmental Parameters

- g Sensitivity Gamma vector of all three axes from 30Hz to 1500Hz at 10RMS: 2ppb/g max
- Insulation Resistance (100V $\pm 15\text{V}$ at 25°C): 500MΩ min
- Shock: Half sine-wave acceleration of 3000G peak amplitude. Duration: 0.3ms, Velocity: 12.3ft/s [MIL-STD-202 M213]
- Moisture resistance: 1000 hours at 85°C, 85% Relative Humidity. Biased. [MIL-STD-202 M106G]
- Temperature cycling: 1000 temperature cycles, where each cycle consists of a 25 minute soak time at -45°C followed by a 25 minute soak time at 85°C, with a 60 second maximum transition time between temperatures. Air to air transition. [JESD22 METHOD JA-104C]
- Vibration 5g for 20 minutes. 12 cycles in each of 3 orientations. Test from 10-2000 Hz [JESD22-B103-B]
- Storage temperature: -55 to 105°C

Outline (mm)



Pb-Free Reflow



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Ordering Information

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

Compliance

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

Packaging Details

- Pack Style: Reel Tape & Reel in accordance with
- Pack Size: 4,000 EIA-481-D

Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
19.2MHz	52.0MHz	-40 to 85	±15	Fundamental	85

*Stability Maximum values ±50ppm

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