



ISSUE 7; October 2013 - RoHS 2011/65/EU

Description

- 2.5 x 2mm SMD quartz crystal hermetically sealed in a ceramic package with a seam sealed metal lid
- Please see our CFPX-218 for our standard 2.5 x 2mm crystal, however the CFPX-181 offers lower ageing than the CFPX-218 package

Frequency Range

- Frequency: 12.0 to 66.0MHz
- Frequency Stability: ±10.00ppm to ±100.00ppm
- Frequency Tolerance: ±10ppm to ±50ppm

General Specification

- Load Capacitance (CL): 10.0pF to 30.0pF or Series
- Drive Level: 100µW max
- Ageing: ±1ppm max per year @ 25°C
- Shunt Capacitance (C0): 5pF max

Operating Temperature Ranges

- 10 to 60°C
- 10 to 70°C
- 30 to 85°C
- 40 to 85°C

Environmental Parameters

- Drop: 75cm drop (3 times) onto hard wooden board
- Vibration: 1.5mm amplitude, 10Hz-55Hz, 1min in 3 mutually perpendicular planes, duration 2hrs each plane
- Storage Temperature Range: -40 to 90°C

Ordering Information

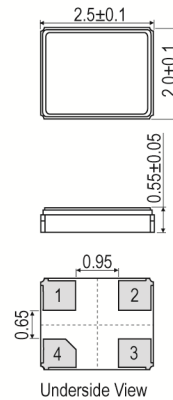
- Frequency*
- Model*
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance*
- Overtone
- (*minimum required)
- Example
- 20.0MHz CFPX-181
- 50/50/-10 to 60C/16 FUND

Packing Details

- Pack Style: **Bulk** Loose in bulk pack
- Pack Size: 100
- Pack Style: **Reel** Tape and reel in accordance with EIA-481-D
- Pack Size: 1,000
- Alternative packing options available



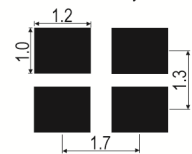
Outline (mm)



Pad Connections

- Crystal
 - GND
 - Crystal
 - GND
- Note: pads 2 and 4 must be connected to GND for proper operation.

Solder Pad Layout



Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: +49 (0)7264 9145-0

France: +33 (0)5 34 50 91 18
USA: +1 (0)408.273.4530

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com

**Electrical Specification - maximum limiting values**

Frequency Range (Note 2)	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
12.0 to <13.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	200Ω	Fundamental
13.0 to <16.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	150Ω	Fundamental
16.0 to <20.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	80Ω	Fundamental
20.0 to <30.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	60Ω	Fundamental
30.0 to <35.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	50Ω	Fundamental
35.0 to <66.0MHz	±10ppm to ±50ppm	±10ppm ±15ppm ±25ppm	±100ppm	-10 to 60°C -30 to 85°C -40 to 85°C	40Ω	Fundamental

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

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