



ISSUE 7; October 2012 - RoHS 2011/65/EU

**Description**

- Standard 3.2 x 2.5mm SMD crystal
- Ceramic package with a seam sealed metal lid, hermetically sealed.

**Frequency Range**

- |                       |                  |
|-----------------------|------------------|
| ■ Frequency           | 12.0 to 67.0MHz  |
| ■ Frequency Stability | ±10.00ppm        |
| ■ Frequency Tolerance | ±10ppm to ±50ppm |

**General Specification**

- |                          |                            |
|--------------------------|----------------------------|
| ■ Load Capacitance (CL)  | 10.0pF to 75.0pF or Series |
| ■ Drive Level            | 100µW max                  |
| ■ Ageing                 | ±5ppm max per year @ 25°C  |
| ■ Shunt Capacitance (C0) | 7pF max                    |

**Operating Temperature Ranges**

- -10 to 60°C
- -20 to 70°C
- -40 to 60°C
- -40 to 85°C

**Environmental Parameters**

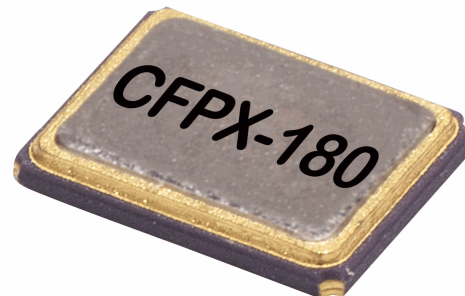
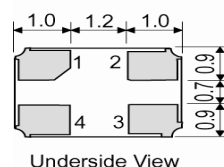
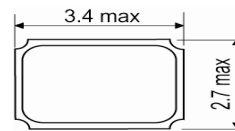
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

**Ordering Information**

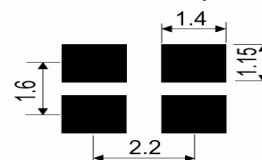
- Frequency\*
- Model\*
- Frequency Tolerance (@25°C)\*
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Load Capacitance\*
- Overtone
- Example
- 20.0MHz CFPX-180
- 50/50/-40 to 85C/16 FUND

**Packing Details**

- |                                         |                                            |
|-----------------------------------------|--------------------------------------------|
| ■ Pack Style: <b>Bulk</b>               | Loose in bulk pack                         |
| Pack Size                               | 100                                        |
| ■ Pack Style: <b>Reel</b>               | Tape and reel in accordance with EIA-481-D |
| Pack Size                               | 1,000                                      |
| ■ Alternative packing options available |                                            |

**Outline (mm)**

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

**Solder Pad Layout****Sales Office Contact Details:**

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**Electrical Specification - maximum limiting values**

| Frequency Range  | Frequency Tolerance | Stability                  |        | Temperature Range                         | ESR Max | Vibration Mode |
|------------------|---------------------|----------------------------|--------|-------------------------------------------|---------|----------------|
|                  |                     | Min                        | Max    |                                           |         |                |
| 12.0 to <13.0MHz | ±10ppm to ±50ppm    | ±10ppm<br>±15ppm<br>±20ppm | ±50ppm | -10 to 60°C<br>-20 to 70°C<br>-40 to 85°C | 250Ω    | Fundamental    |
| 13.0 to <16.0MHz | ±10ppm to ±50ppm    | ±10ppm<br>±15ppm<br>±20ppm | ±50ppm | -10 to 60°C<br>-20 to 70°C<br>-40 to 85°C | 150Ω    | Fundamental    |
| 16.0 to <30.0MHz | ±10ppm to ±50ppm    | ±10ppm<br>±15ppm<br>±20ppm | ±50ppm | -10 to 60°C<br>-20 to 70°C<br>-40 to 85°C | 100Ω    | Fundamental    |
| 30.0 to <67.0MHz | ±10ppm to ±50ppm    | ±10ppm<br>±15ppm<br>±20ppm | ±50ppm | -10 to 60°C<br>-20 to 70°C<br>-40 to 85°C | 60Ω     | Fundamental    |

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

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