

ISSUE 7; April 2016

**Description**

- 6 x 3.5mm SMD crystal  
Available in 2 or 4 pad design  
Ceramic package with a resin sealed ceramic lid, hermetically sealed.  
Not recommended for new designs  
For alternative see model CFPX-228
- -AA 2 pad
- 2 Pad device
- -B B 4 pad
- 4 Pad device

**Frequency Parameters**

- Frequency 9.0MHz to 67.0MHz
- Frequency Tolerance  $\pm 30.00\text{ppm}$  to  $\pm 50.00\text{ppm}$
- Frequency Stability  $\pm 50.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing  $\pm 5\text{ppm max @ } 25^\circ\text{C}$

**Electrical Parameters**

- Load Capacitance (CL) 10.0pF to 75.0pF
- Shunt Capacitance (C0) 7pF max
- Drive Level 100 $\mu\text{W}$  max

**Operating Temperature Ranges**

- -10 to 60°C

**Environmental Parameters**

- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz - 2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)
- Storage Temperature Range: -40 to 85°C

**Ordering Information**

- Frequency\*
- Model\*
- Variant\*
- Frequency Tolerance (@25°C)\*
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Load Capacitance\*
- Overtone\*
- Example  
20.0MHz 3SMX-A  
50/50/-10 to 60C/10 FUND

**Compliance**

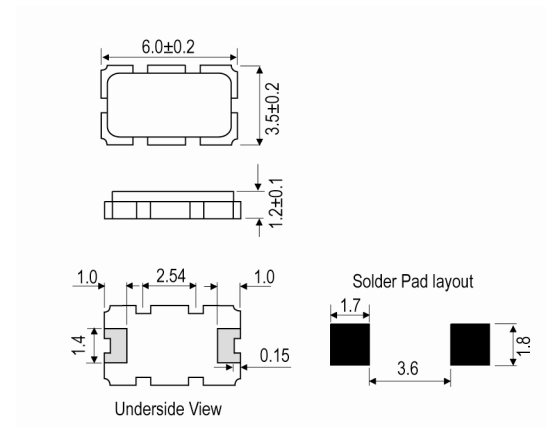
- RoHS Status (2011/65/EU) Compliant
- REACh Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

**Packaging Details**

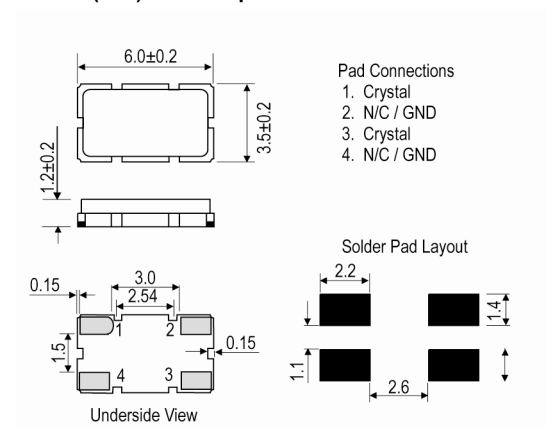
- Pack Style: Reel Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack  
Pack Size: 100



Outline (mm) -A = A 2 pad



Outline (mm) -B = B 4 pad



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**Electrical Specification - maximum limiting values**

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Over Tone Order | ESR |
|---------------|---------------|-------------------|-----------------|-----------------|-----|
|               |               | °C                | ppm             |                 | Ω   |
| 9.0MHz        | 11.999999MHz  | -10 to 60         | ±50             | Fundamental     | 80  |
| 12.0MHz       | 15.999999MHz  | -10 to 60         | ±50             | Fundamental     | 60  |
| 16.0MHz       | 50.0MHz       | -10 to 60         | ±50             | Fundamental     | 40  |
| 40.0MHz       | 67.0MHz       | -10 to 60         | ±50             | 3rd Overtone    | 70  |

\*Stability Maximum values ±100ppm

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

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