



ISSUE 13; February 2012 - RoHS 2011/65/EU

Description

- Standard 7 x 5mm SMD crystal. 7 x 5mm SMD crystal available in three different pad designs and two different package materials. 12SMX-A, -C, -D are ceramic package with a resin sealed ceramic lid, hermetically sealed. 12SMX-B is a ceramic package with a seam sealed metal lid, hermetically sealed. Please Note: 12SMX-B is the standard package style. For low profile version of a 7 x 5mm crystal please see our 14SMX. For tighter tolerances and stabilities please see our 14SMX. Stock parts available.

Frequency Range

- Frequency 6.0 to 84.0Mhz
- Frequency Tolerance $\pm 20\text{ppm}$ to $\pm 100\text{ppm}$

General Specification

- Load Capacitance (CL) 10.0pF to 75.0pF
- Drive Level 100 μ W max
- Ageing $\pm 5\text{ppm}$ per year max
- Shunt Capacitance (C0) 7pF max

Operating Temperature Ranges

- 0 to 50°C
- 10 to 60°C
- 20 to 70°C
- 40 to 85°C

Environmental Parameters

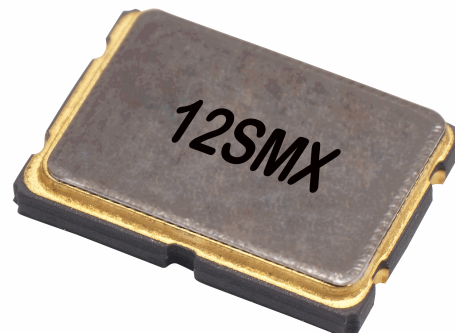
- Storage Temperature Range: -40 to 85°C

Ordering Information

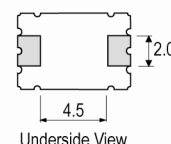
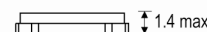
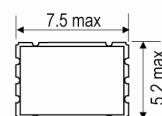
- Example
10.0MHz 12SMX-B
50/50/-20 to 70C/10 FUND
- Frequency*
- Model*
- Variant*
- Frequency Tolerance (@25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance*
- Overtone

Packing Details

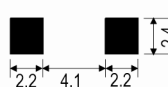
- Pack Style: **Bulk** Loose in bulk pack
Pack Size 100
- Pack Style: **Reel** Tape and reel in accordance with EIA-481-D
Pack Size 1,000
- Alternative packing options available



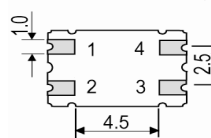
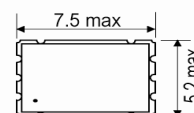
Outline (mm) -A = 2 pad (ceramic lid)



Solder Pad Layout



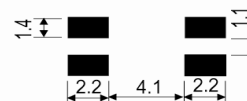
-B = 4 pad (metal lid)



Pad Connection

1. Crystal
2. GND & Lid
3. Crystal
4. GND & Lid

Solder Pad Layout

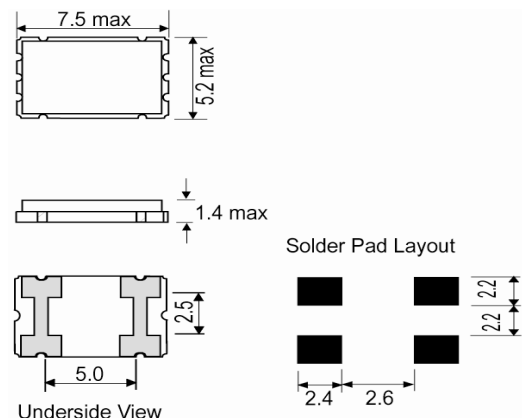
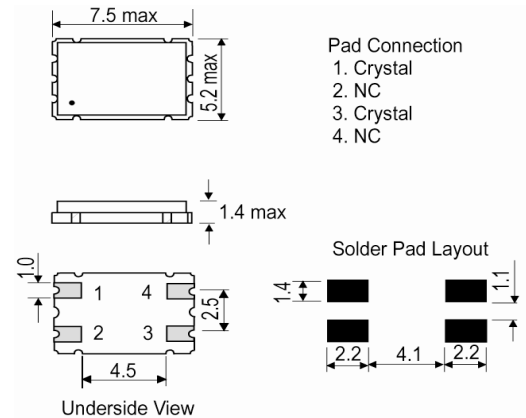


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**-C = 2 into 4 pad (ceramic lid)****-D = 4 pad (ceramic lid)****Electrical Specification - maximum limiting values**

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
6.0 to <8.0MHz	±20 to ±100ppm	±20ppm ±20ppm ±20ppm ±30ppm	±100ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	150Ω	Fundamental
8.0 to <10.0MHz	±20 to ±100ppm	±20ppm ±20ppm ±20ppm ±30ppm	±100ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	80Ω	Fundamental
10.0 to <16.0MHz	±20 to ±100ppm	±20ppm ±20ppm ±20ppm ±30ppm	±100ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	60Ω	Fundamental
16.0 to <50.0MHz	±20 to ±100ppm	±20ppm ±20ppm ±20ppm ±30ppm	±100ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	40Ω	Fundamental
50.0 to <84.0MHz	±20 to ±100ppm	±20ppm ±20ppm ±20ppm ±30ppm	±100ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	60Ω	3RD Overtone

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