



ISSUE 9; February 2012 - RoHS 2011/65/EU

Description

- 12 x 5mm SMD crystal
- Ceramic package with a resin sealed ceramic lid, hermetically sealed
- A pad to pad replacement for the 5SMX and 32SMX crystal

Frequency Range

- Frequency: 3.2000 to 70.0Mhz
- Frequency Tolerance: ±20ppm to ±50ppm

General Specification

- Load Capacitance (CL): 16.0pF to 32.0pF or Series
- Drive Level: 100µW max
- Ageing: ±5ppm max per year at 25°C
- Shunt Capacitance (C0): 7pF max

Operating Temperature Ranges

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

Environmental Parameters

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

Ordering Information

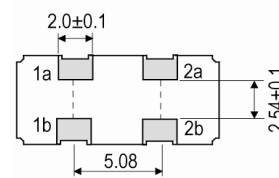
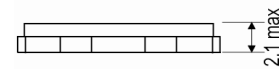
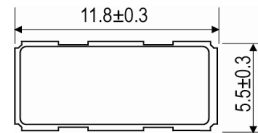
- Example: 10.0MHz 6SMX 50/50/-20 to 70C/16 FUND
- Frequency*
 - Model*
 - Frequency Tolerance (@25°C)*
 - Frequency Stability (over operating temperature range)*
 - Operating Temperature Range*
 - Load Capacitance*
 - Overtone*

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



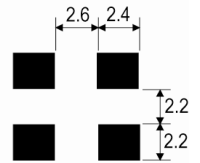
Outline (mm)



Underside View

Pad Connections
1a & 1b. Crystal
2a & 2b. Crystal

Solder Pad Layout



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**Electrical Specification - maximum limiting values**

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
3.2 to <3.5MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	200Ω	Fundamental
3.5 to <4.0MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	140Ω	Fundamental
4.0 to <4.4MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	120Ω	Fundamental
4.4 to <4.9MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	100Ω	Fundamental
4.9 to <6.0MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	80Ω	Fundamental
6.0 to <7.0MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	60Ω	Fundamental
7.0 to <8.0MHz	±20ppm to ±50ppm	±30ppm ±30ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	50Ω	Fundamental
8.0 to <11.0MHz	±20ppm to ±50ppm	±20ppm ±20ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	45Ω	Fundamental
11.0 to <12.0MHz	±20ppm to ±50ppm	±15ppm ±15ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	40Ω	Fundamental
12.0 to <15.0MHz	±20ppm to ±50ppm	±15ppm ±15ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	35Ω	Fundamental
15.0 to <27.0MHz	±20ppm to ±50ppm	±15ppm ±15ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	30Ω	Fundamental
27.0 to <70.0MHz	±20ppm to ±50ppm	±15ppm ±15ppm ±30ppm	±50ppm	-10 to 60°C -20 to 70°C -40 to 85°C	100Ω	3RD Overtone

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

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