# Quartz Crystal Specification
# *6SMX*

**ISSUE 9; July 2016**

## Description

- 12 x 5mm SMD crystal
  Ceramic package with a resin sealed ceramic lid, hermetically sealed.




## Frequency Parameters

| | |
|---|---|
| Frequency | 3.2MHz to 70.0MHz |
| Frequency Tolerance | ±20.00ppm to ±50.00ppm |
| Frequency Stability | ±15.00ppm to ±50.00ppm |
| Ageing | ±5ppm max per year at 25°C |

## Electrical Parameters

| | |
|---|---|
| Load Capacitance (CL) | 16.0pF to 32.0pF |
| Shunt Capacitance (C0) | 7pF max |
| Drive Level | 100µW 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
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)
- Storage Temperature Range: -55°C to 125°C

## Ordering Information

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

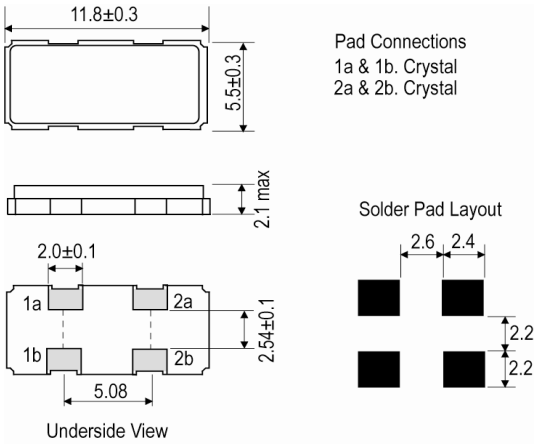
## Compliance

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

## Packaging Details

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

**Outline (mm)**




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**Electrical Specification - maximum limiting values**

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Over Tone Order | ESR |
|---|---|---|---|---|---|
| | | °C | ppm | | Ω |
| 3.2MHz | 3.499999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 200 |
| 3.5MHz | 3.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 140 |
| 4.0MHz | 4.399999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 120 |
| 4.4MHz | 4.899999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 100 |
| 4.9MHz | 5.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 80 |
| 6.0MHz | 6.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 60 |
| 7.0MHz | 7.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±30<br>±30<br>±30 | Fundamental | 50 |
| 8.0MHz | 10.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±20<br>±20<br>±30 | Fundamental | 45 |
| 11.0MHz | 11.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±15<br>±15<br>±30 | Fundamental | 40 |
| 12.0MHz | 14.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±15<br>±15<br>±30 | Fundamental | 35 |
| 15.0MHz | 26.999999MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±15<br>±15<br>±30 | Fundamental | 30 |
| 27.0MHz | 70.0MHz | -10 to 60<br>-20 to 70<br>-40 to 85 | ±15<br>±15<br>±30 | 3rd Overtone | 100 |

**Stability Maximum values ±50ppm*

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