

## CSX3 Model

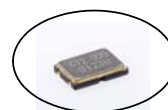
3.2X5 mm Ultra Miniature SMD Crystal

**Frequency Range:** 12MHz to 45MHz  
**Calibration Tolerance:**  $\pm 10\text{ppm}$  to  $\pm 50\text{ppm}$   
**Frequency Stability:**  $\pm 10\text{ppm}$  to  $\pm 100\text{ppm}$   
**Temperature Range:**  $-10^{\circ}\text{C}$  to  $70^{\circ}\text{C}$   
**Storage:**  $-30^{\circ}\text{C}$  to  $85^{\circ}\text{C}$   
**Shunt Capacitance:** 5.0pF Max  
**Drive Level:** 20uW Typical, 300uW Max  
**Aging:**  $\pm 3\text{ppm}$  Max 1st/yr  
**ESR:** see table 1

**Packaging:** 1K Tape and Reel

**Aging:**  $< 3\text{ppm}$  1st/yr Max

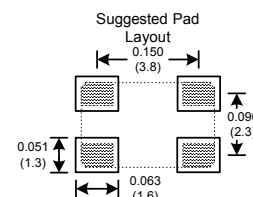
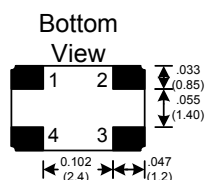
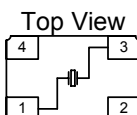
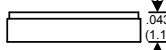
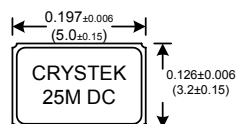
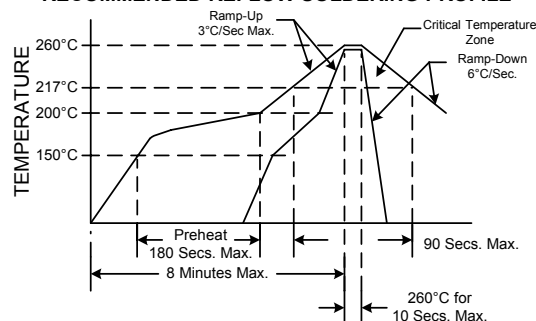
## Quartz Crystal



Designed to meet the most demanding space requirements while providing excellent stability.

Lead Free  
RoHS  
Compliant

### RECOMMENDED REFLOW SOLDERING PROFILE



Dimensions inches (mm)

All dimensions are Max unless otherwise specified.

### Build Your Own P/N

CSX3-XXX-XX-Freq

| Frequency Tolerance at 25°C |              |
|-----------------------------|--------------|
| A                           | $\pm 10$ ppm |
| B                           | $\pm 25$ ppm |
| C                           | $\pm 50$ ppm |

| Frequency Stability over Temp Range |               |               |
|-------------------------------------|---------------|---------------|
| A                                   | $\pm 10$ ppm  | (-10 to 70°C) |
| B                                   | $\pm 25$ ppm  | (-10 to 70°C) |
| C                                   | $\pm 50$ ppm  | (-10 to 70°C) |
| D                                   | $\pm 100$ ppm | (-10 to 70°C) |
| E                                   | $\pm 50$ ppm  | (-40 to 85°C) |
| F                                   | $\pm 100$ ppm | (-40 to 85°C) |
| G                                   | $\pm 30$ ppm  | (-40 to 85°C) |

| Mode                  |
|-----------------------|
| "Blank" or "1"        |
| Fundamental 12-39 MHz |

| Load Capacitance |        |
|------------------|--------|
| S=               | Series |
| 10=              | 10pF   |
| 14=              | 14 pF  |
| 16=              | 16 pF  |
| 18=              | 18 pF  |
| 20=              | 20 pF  |
| 22=              | 22 pF  |
| 25=              | 25 pF  |
| 32=              | 32 pF  |

Example:

CSX3-AB1-18-19.680 =  $\pm 10\text{ppm}$  at 25°C,  $\pm 25\text{ppm}$  -10 to 70°C, Fundamental, 18pF Load Cap, 19.680MHz

| PIN | Signal  |
|-----|---------|
| 1   | Crystal |
| 2   | GND     |
| 3   | Crystal |
| 4   | GND     |

| Resistance at series resonance |         |
|--------------------------------|---------|
| Freq. (MHz)                    | Max ESR |
| 12.0 - 20.0 (F)                | 50      |
| 20.1 - 39.0 (F)                | 40      |

Table 1

Specifications subject to change without notice.

TD-021011 Rev. G