

## XS Type

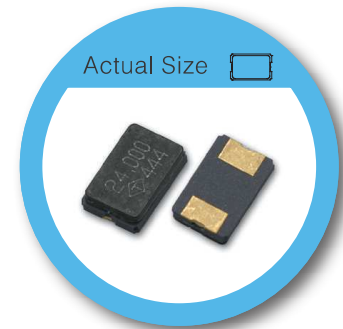
### 5.0 x 3.2 mm Glass Seal SMD Crystal

#### FEATURE

- Typical 5.0 x 3.2 x 1.2 mm full ceramic SMD package.
- 12 mm width Tape & Reel package for automatic assembly.

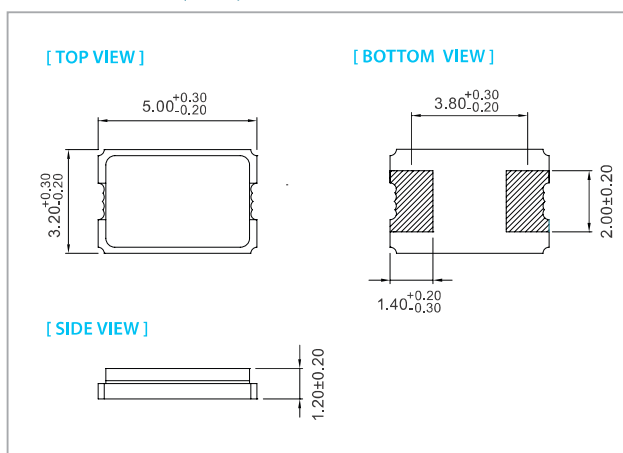
#### TYPICAL APPLICATION

- Automotive
- Notebook, Computer Peripherals, Hard Disk
- MP3 Player, Audio & Visual

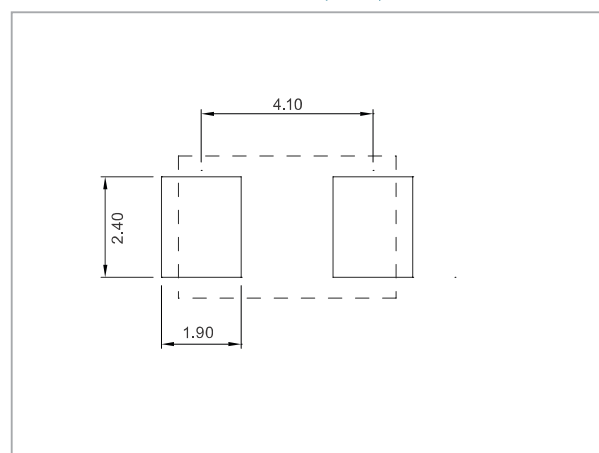


RoHS Compliant

#### DIMENSION (mm)



#### SOLDER PAD LAYOUT (mm)



#### ELECTRICAL SPECIFICATION

| Parameter             | Min.            | Typical | Max. | Unit       |
|-----------------------|-----------------|---------|------|------------|
| Storage Temp. Range   | -55             | -       | 125  | °C         |
| Level of Drive        | -               | 10      | 300  | μw         |
| Shunt Capacitance(Co) | -               | -       | 7.0  | pF         |
| Insulation Resistance | 500 MΩ @ DC100V | -       | -    |            |
| Aging                 |                 | ±3.0    |      | ppm / year |

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

#### EQUIVALENT SERIES RESISTANCE (E.S.R)

| Frequency Range      | MODE | E.S.R |
|----------------------|------|-------|
| 8 MHz ≤ Fo < 10 MHz  | A1   | <180Ω |
| 10 MHz ≤ Fo < 16 MHz | A1   | <150Ω |
| 16 MHz ≤ Fo < 20 MHz | A1   | <100Ω |
| 20 MHz ≤ Fo < 30 MHz | A1   | <70Ω  |
| 30 MHz ≤ Fo ≤ 54 MHz | A1   | <50Ω  |

#### FREQ. STABILITY vs. TEMP. RANGE

| Temp.(°C) \ ppm | ±5 | ±10 | ±15 | ±20 |
|-----------------|----|-----|-----|-----|
| -10 ~ +60       | △  | ○   | ○   | ○   |
| -20 ~ +70       | ×  | △   | ○   | ○   |
| -40 ~ +85       | ×  | △   | ○   | ○   |

\* ○: Available △: Conditional X: Not available

#### FREQ. STABILITY vs. WIDE TEMP. RANGE

| Temp.(°C) \ ppm | ±15 | ±20 | ±30 | ±50 |
|-----------------|-----|-----|-----|-----|
| -40 ~ +105      | △   | ○   | ○   | ○   |
| -40 ~ +125      | ×   | ×   | △   | ○   |

\* ○: Available △: Conditional X: Not available

**Note: not all combination of options are available. Other specifications may be available upon request.**