

# X2 Type

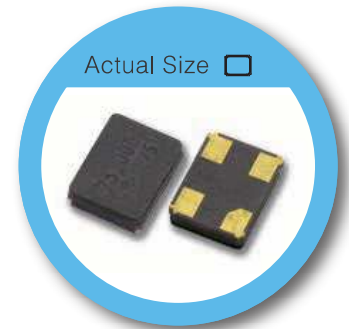
## 3.2 x 2.5 mm Glass Seal SMD Crystal

### FEATURE

- Typical 3.2 x 2.5 x 0.75 mm full ceramic SMD package.
- 8 mm width Tape & Reel package for automatic assembly.

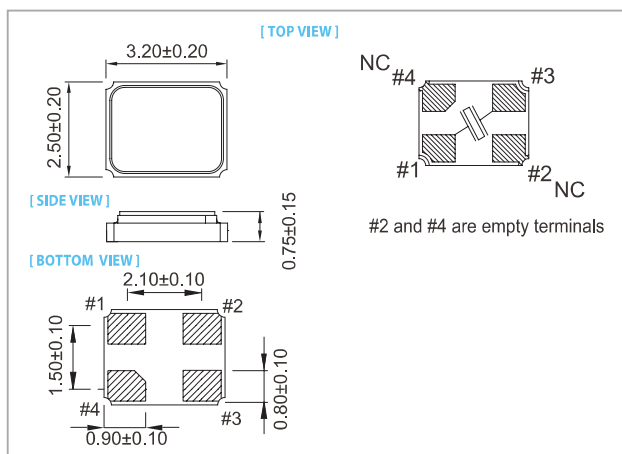
### TYPICAL APPLICATION

- PDA, DSC
- DECT/ WDCT
- 4G/LTE, WLAN

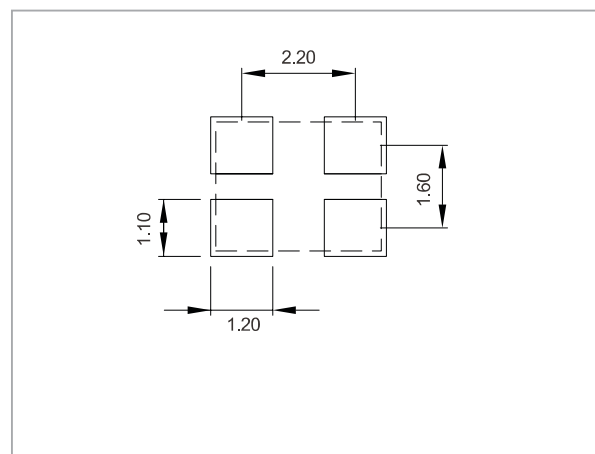


RoHS Compliant

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

Parameter	Min.	Typical	Max.	Unit
Storage Temp. Range	-55	-	125	°C
Standard Frequency	13, 16, 20, 25, 30			MHz
Level of Drive	-	10	200	µw
Shunt Capacitance(Co)	-	-	3.0	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
12 MHz ≤ Fo ≤ 13 MHz	A1	<170 Ω
13 MHz < Fo < 19.5 MHz	A1	<100 Ω
19.5 MHz ≤ Fo < 27 MHz	A1	<70 Ω
27 MHz ≤ Fo ≤ 48 MHz	A1	<60 Ω

### FREQ. STABILITY vs. TEMP. RANGE

Temp.(°C)	ppm		
	±5	±10	±15
-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.**