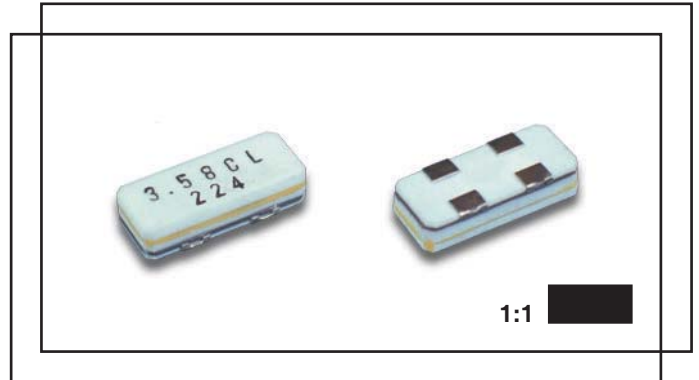


## CX-01 smd crystal (3.20 ~ 60.0)MHz

- # (11.90 x 5.3)mm ceramic package
- # 24mm tape and reel
- # Standard and custom frequencies
- # Low profile



### Electrical specification

**Case style**

**Frequency range**

**Adjustment tolerance**

**Temperature tolerance**

**Operating temperature**

**Storage temperature**

**Load**

**Shunt capacitance  $C_0$**

**Drive level**

**Q factor**

**Ageing**

**Insulation resistance**

CX-01: height 2.50mm  
 (3.20 ~ 60.0)MHz, fundamental and third overtone  
 from  $\pm 10$ ppm at  $+25^\circ\text{C}$ , frequency dependent  
 from  $\pm 10$ ppm, frequency and temperature range dependent  
 $(-10 +60)^\circ\text{C}$   
 $(-40 +85)^\circ\text{C}$   
 customer specified  
 7.0pF max.  
 (0.1 ~ 0.5)mili.W  
 80,000 typical  
 $\pm 5$ ppm max. per year  
 500Meg. ohm min. at 100Vd.c.

### Ordering information

The CX-01 smd crystals may be specified within their available frequency range together with load capacitance, adjustment tolerance and temperature tolerance with each parameter coded as follows ....

**Example .... CX-01 crystal, 13.00MHz, load 20pF,  $\pm 10$ ppm at  $+25^\circ\text{C}$ ,  $\pm 10$ ppm( $-10 +60)^\circ\text{C}$**

**TFC PART NUMBER .... CX1 13.00M H B B**

'CX1' .... crystal series: CX = CX-01

'13.00M' .... frequency: 13.00M = 13.00MHz, frequency range from (3.2 ~ 60.0)MHz

'H' .... load capacitance: H = 20pF

'B' .... adjustment tolerance at  $+25^\circ\text{C}$ : B =  $\pm 10$ ppm

'B' .... temperature tolerance: B =  $\pm 10$ ppm( $-10 +60)^\circ\text{C}$

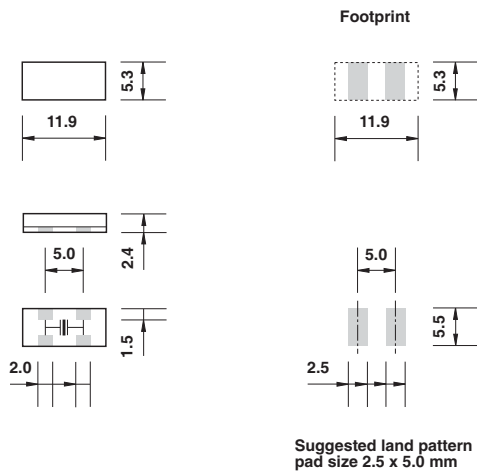
**Load capacitance .... C: 10pF, D: 12pF, E: 15pF, G: 18pF, H: 20pF, I: 30pF, J: 32pF, S: series**

**Adjustment tolerance .... B:  $\pm 10$ ppm, E:  $\pm 30$ ppm, G:  $\pm 50$ ppm, H:  $\pm 100$ ppm**

**Temperature tolerance .... B:  $\pm 10$ ppm, E:  $\pm 30$ ppm, G:  $\pm 50$ ppm, H:  $\pm 100$ ppm**

## CX-01 smd crystal

### CX-01 dimensions(mm)



### ESR - equivalent series resistance

| frequency range(MHz) | cut/mode | esr( $\Omega$ ) |
|----------------------|----------|-----------------|
| (3.2 ~ 3.5)          | AT1      | <250            |
| (3.5 ~ 4.0)          | AT1      | <200            |
| (4.0 ~ 4.5)          | AT1      | <150            |
| (4.5 ~ 4.7)          | AT1      | <100            |
| (7.0 ~ 14.0)         | AT1      | <70             |
| (14.0 ~ 20.0)        | AT1      | <60             |
| (20.0 ~ 60.0)        | AT3      | <100            |