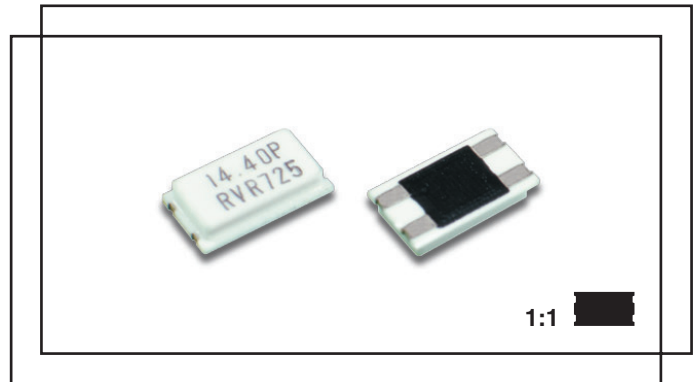


CX-02X miniature smd crystal (8.0 ~ 100.0)MHz

- # (8.0 x 4.5)mm ceramic package
- # 16mm tape and reel
- # Standard and custom frequencies
- # Fundamental to 40.0MHz



Electrical specification

Case style	CX-02: height 1.80mm
Frequency range	(8.0 ~ 100.0)MHz, fundamental and third overtone
Adjustment tolerance	from ± 10 ppm at +25°C, frequency dependent
Temperature tolerance	from ± 10 ppm, frequency and temperature range dependent
Operating temperature	(-10 +60)°C
Storage temperature	(-40 +85)°C
Load	customer specified
Shunt capacitance C_0	7.0pF max.
Drive level	(0.1 ~ 0.5)mW
Q factor	80,000 typical
Ageing	± 5 ppm max. per year
Insulation resistance	500Meg. ohm min. at 100Vd.c.

Ordering information

The CX-02X 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 C-02X crystal, 13.00MHz, load 20pF, ± 10 ppm at +25°C, ± 10 ppm(-10 +60)°C

TFC PART NUMBER C02X 13.00M H B B

'C02X' crystal series: C02X = CX-02X

'13.00M' frequency: 13.00M = 13.00MHz, frequency range from (8.0 ~ 100.0)MHz

'H' load capacitance: H = 20pF

'B' adjustment tolerance at +25°C: B = ± 10 ppm

'B' temperature tolerance: B = ± 10 ppm(-10 +60)°C

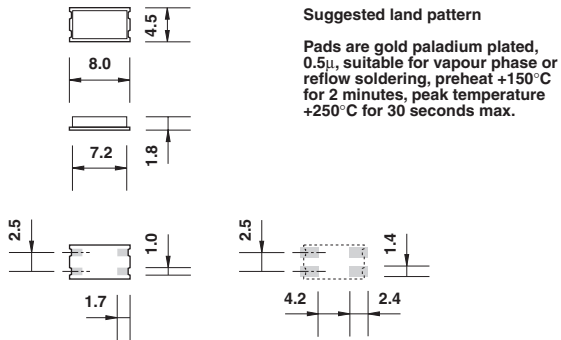
Load capacitance C: 10pF, D: 12pF, E: 15pF, G: 18pF, H: 20pF, I: 30pF, J: 32pF, S: series

Adjustment tolerance B: ± 10 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm

Temperature tolerance B: ± 10 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm

CX-02X miniature smd crystal

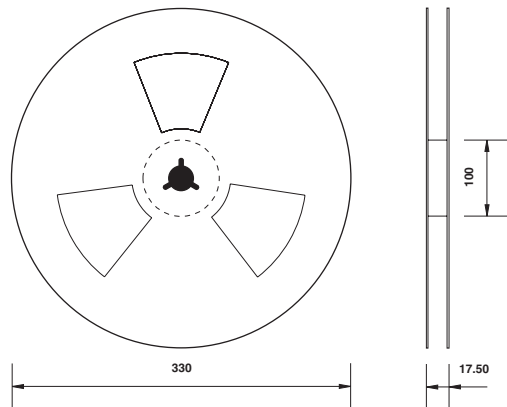
CX-02X dimensions(mm)



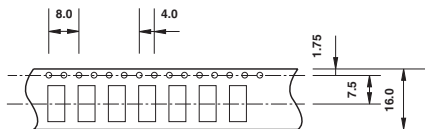
ESR - equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
(8.0 ~ 10.0)	AT1	<100
(10.0 ~ 12.0)	AT1	<80
(12.0 ~ 40.0)	AT1	<50
(30.0 ~ 100.0)	AT3	<70

Tape and reel dimensions(mm)



Centre hole diameter 13.0mm, slot width 2mm spaced at 120°
 Reel quantity 3000 pieces, leader tape 400mm minimum
 Trailer tape: 10 empty compartments minimum



Tape transport hole diameter 1.5mm
 Compartment size 4.8mm x 8.4mm, depth 2.0mm
 Component spacing is 8.0mm