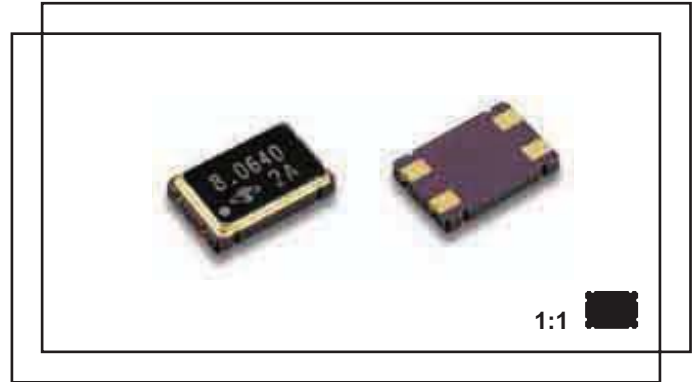


XC miniature smd crystal (8.0 ~ 100.0)MHz

- # (7.0 x 5.0)mm ceramic case
- # 16mm tape and reel
- # Good ageing
- # AT and BT cut quartz
- # RoHS compliant



Electrical specification

Case style	XC: height 1.2mm
Frequency range	(8.0 ~ 50.0)MHz fundamental, (40 ~ 100)MHz third overtone
Standard frequencies	10.00MHz, 11.00MHz, 12.00MHz, 13.0MHz, 16.0MHz, 14.40MHz, 15.36MHz, 16.00MHz, 16.367MHz, 16.9344MHz, 19.20MHz, 19.440MHz, 19.68MHz, 20.00MHz, 24.00MHz, 26.00MHz, 40.00MHz, 40.320MHz
Adjustment tolerance	from ± 10 ppm at +25°C, frequency dependent
Temperature tolerance	from ± 5 ppm, frequency and temperature range dependent
Operating temperature	(-10 +60)°C ~ (-20 +70)°C
Storage temperature	(-40 +85)°C
Load	customer specified
Shunt capacitance C_0	(2.0 ~ 4.0)pF typical, 7.0pF max.
Drive level	100µW maximum
Q factor	80,000 typical
Ageing	± 5 ppm max. per year
Insulation resistance	500Meg. ohm min. at 100Vd.c.

Ordering information

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

Example XC crystal, 13.00MHz, load 20pF, ± 10 ppm at +25°C, ± 10 ppm(-10 +60)°C

TFC PART NUMBER XC 13.00M H B B I

'XC' crystal series: XC

'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

'I' temperature range: I = (-10 +60)°C

Load capacitance A: 8pF, B: 9pF, C: 10pF, D: 12pF, E: 15pF, F: 16pF,

G: 18pF, H: 20pF, I: 30pF, J: 32pF, S: series

Adjustment tolerance B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm, D: ± 25 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm

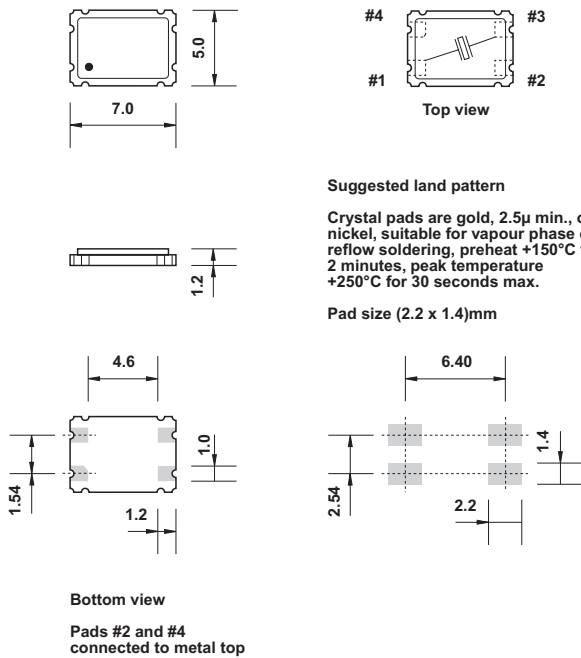
Temperature tolerance A: ± 5 ppm, B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm,

D: ± 25 ppm E: ± 30 ppm G: ± 50 ppm, H: ± 100 ppm

Temperature range B: (0 +50)°C, I: (-10 +60)°C, C: (-20 +70)°C, L: (-40 +85)°C

XC miniature smd crystal

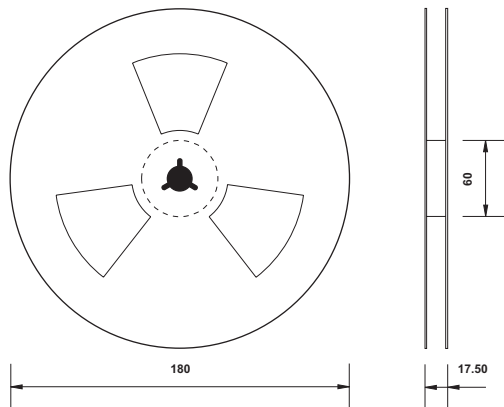
XC dimensions(mm) shown twice full size



ESR - equivalent series resistance

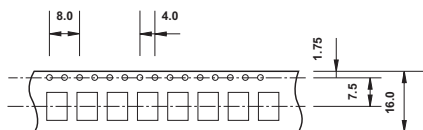
frequency range(MHz)	cut/mode	esr(Ω)
(8.00 ~ 11.00)	AT1	<60
(11.01 ~ 14.00)	AT1	<50
(14.01 ~ 40.00)	AT1	<40
(40.01 ~ 50.00)	AT3	<80
(50.01 ~ 100.0)	AT3	<85

Tape and reel dimensions(mm)



Centre hole diameter 13.0mm, slot width 2mm spaced at 120±
Reel quantity 1000 pieces, leader tape 400mm minimum

Trailer tape: 10 empty compartments minimum



Tape transport hole diameter 1.5mm, 4.0mm pitch
Compartment size 8.18mm x 5.56mm, depth 2.16mm
Component spacing on 8.0mm pitch

Product marking

Marking includes frequency and date code:

XX.XXX Frequency in MHz
YWW Y = last digit of year
WW = week number