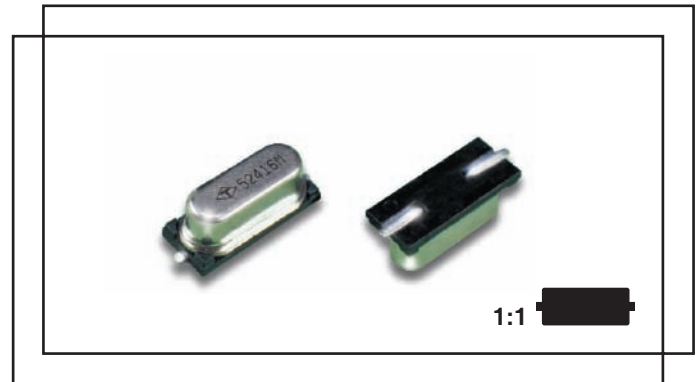


XP / XJ smd crystal (3.50 ~ 90)MHz

- # low profile package
- # AT and BT cut
- # low cost
- # standard and custom frequencies
- # RoHS compliant



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

XP: height 2.35mm, XJ: height 3.60mm
 (3.50 ~ 90.0)MHz, fundamental to 32.0MHz
 from ± 5 ppm at $+25^\circ\text{C}$, frequency dependent
 from ± 5 ppm, frequency and temperature range dependent
 $(-10 +60)^\circ\text{C} \sim (-40 +85)^\circ\text{C}$
 $(-40 +85)^\circ\text{C}$
 customer specified
 7.0pF max.
 $10\mu\text{W} \sim 5\text{milli.W}$
 80,000 typical
 ± 5 ppm first year max.
 500Meg. ohm min. at $+100\text{Vd.c.}$

Ordering information

The XP and XJ type of 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 XJ crystal, 10.00MHz, load 20pF, ± 20 ppm at $+25^\circ\text{C}$, ± 50 ppm $(-10 +60)^\circ\text{C}$

TFC PART NUMBER XJ 10.00M H C G I

'XJ' crystal series: XJ standard size (XP also available)

'10.00M' frequency: 10.00M = 10.00MHz, frequency range from (3.50 ~ 90)MHz

'H' load capacitance: H = 20pF

'C' adjustment tolerance at $+25^\circ\text{C}$: C = ± 20 ppm

'G' temperature tolerance: G = ± 50 ppm

'I' temperature range: I = $(-10 +60)^\circ\text{C}$

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

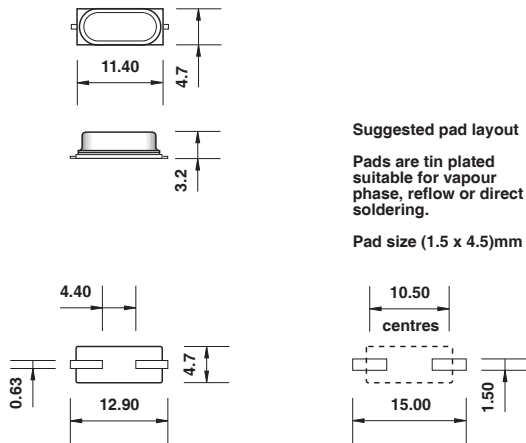
Adjustment tolerance A: ± 5 ppm, B: ± 10 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm, P: ± 15 ppm

Temperature tolerance A: ± 5 ppm, B: ± 10 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm, P: ± 15 ppm

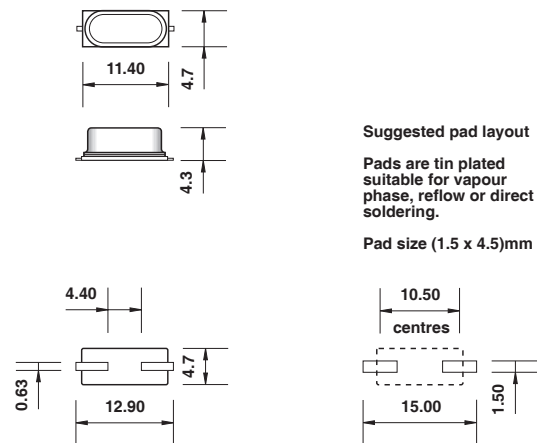
Temperature range B: $(0 +55)^\circ\text{C}$, I: $(-10 +60)^\circ\text{C}$, C: $(-20 +70)^\circ\text{C}$, L: $(-40 +85)^\circ\text{C}$

XP / XJ smd crystal

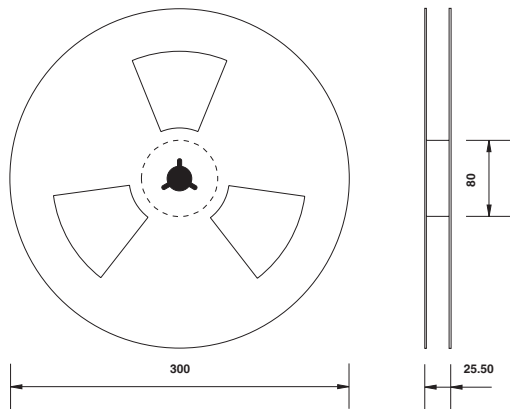
XP dimensions(mm)



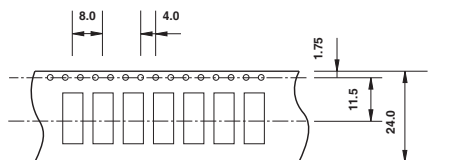
XJ dimensions(mm)



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
 Compartment size 5.1mm x 11.9mm, depth 3.4mm(U3B) depth 4.3mm(U4B)
 Component spacing 8.0mm

ESR - equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
(3.50 ~ 4.0)	AT1	<140
(4.0 ~ 5.0)	AT1	<120
(5.0 ~ 6.0)	AT1	<80
(6.0 ~ 7.0)	AT1	<70
(7.0 ~ 9.0)	AT1	<45
(9.0 ~ 13.0)	AT1	<40
(13.0 ~ 16.0)	AT1	<35
(16.0 ~ 20.0)	AT1	<30
(20.0 ~ 24.0)	AT1	<25
(24.0 ~ 32.0)	AT3	<120
(32.0 ~ 80.0)	AT3	<80
(24.0 ~ 40.0)	BT1	<30