

**XP, XJ low profile smd crystal  
(3.50 ~ 90)MHz**

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

**Electrical specification**

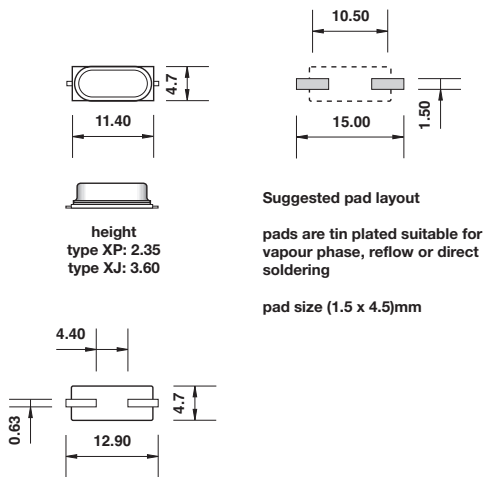
<b>Case style</b>	<b>XP: height 2.35mm, XJ: height 3.60mm</b>
<b>Frequency range</b>	(3.50 ~ 90.0)MHz, fundamental to 32.0MHz
<b>Adjustment tolerance</b>	from ±5ppm at +25°C, frequency dependent
<b>Temperature tolerance</b>	from ±5ppm, frequency and temperature range dependent
<b>Operating temperature</b>	(-10 +60)°C ~ (-40 +85)°C
<b>Storage temperature</b>	(-40 +85)°C
<b>Load</b>	customer specified
<b>Shunt capacitance C<sub>0</sub></b>	7.0pF max.
<b>Drive level</b>	10µW ~ 5milli.W
<b>Q factor</b>	80,000 typical
<b>Ageing</b>	±5ppm first year max.
<b>Insulation resistance</b>	500Meg. ohm min. at+100Vd.c.

**Ordering information**

<b>EXAMPLE</b>	<b>XJ crystal, 10.00MHz, load 20pF, ±20ppm at +25°C, ±50ppm(-10 +60)°C</b>
<b>TFC PART NUMBER</b>	<b>XJ 10.00M H C G I</b>
<b>XJ</b>	crystal series: XJ height 3.60mm, XP height 2.35mm
<b>10.00M</b>	frequency: 10.00M = 10.00MHz, frequency range from (3.50 ~ 90)MHz
<b>H</b>	load capacitance: H = 20pF
<b>C</b>	adjustment tolerance at +25°C: C = ±20ppm
<b>G</b>	temperature tolerance: G = ±50ppm
<b>I</b>	temperature range: I = (-10 +60)°C
<b>Load capacitance</b>	C: 10pF, D: 12pF, E: 15pF, G: 18pF, H: 20pF, I: 30pF, J: 32pF, S: series
<b>Adjustment tolerance</b>	A: ±5ppm, B: ±10ppm, C: ±20ppm, E: ±30ppm, G: ±50ppm, H: ±100ppm
<b>Temperature tolerance</b>	A: ±5ppm, B: ±10ppm, P: ±15ppm, C: ±20ppm, E: ±30ppm, G: ±50ppm, H: ±100ppm
<b>Temperature range</b>	B: (0 +55)°C, I: (-10 +60)°C, C: (-20 +70)°C, L: (-40 +85)°C

**type XP, XJ low profile smd crystal**

**XP and XJ dimensions(mm)**



**ESR - equivalent series resistance**

frequency range(MHz)	cut/mode	esr( $\Omega$ )
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