

**XW sub miniature
ultra thin smd crystal
(12.0 ~ 36.864)MHz fundamental**

- (4.0 x 2.5)mm, height 0.85mm, ceramic package
- vacuum seal
- 12mm tape and reel
- 1000/2000/3000/5000 pieces per reel
- RoHS compliant

Electrical specification

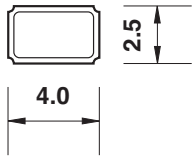
| | |
|---|---|
| case style | XW: (4 x 2.5)mm, height 0.85mm |
| frequency range | (12.0 ~ 36.864)MHz |
| standard frequencies | 16.00MHz, 19.50MHz, 20.00MHz, 24.00MHz, 26.00MHz |
| adjustment tolerance | from ± 5 ppm at +25°C, frequency dependent |
| temperature tolerance | from ± 5 ppm, frequency and temperature range dependent |
| operating temperature | (-10 +60)°C ~ (-40 +85)°C |
| storage temperature | (-55 +125)°C |
| load | customer specified |
| shunt capacitance C_0 | 7.0pF max. |
| drive level | 10 μ W ~ 100 μ W |
| Q factor | 80,000 typical |
| ageing | ± 1 ppm first year max. |
| insulation resistance | 500Meg. ohm min. at+100Vd.c. |

Ordering information

| | |
|------------------------------|---|
| EXAMPLE | XW crystal, 16.00MHz, load 20pF, ± 10 ppm at +25°C, ± 10 ppm(-10 +60)°C |
| TFC PART NUMBER | XW 16.00M H B B I |
| XW | crystal series: XW |
| 16.00M | frequency: 16.00M = 16.00MHz, frequency range from (12.0 ~ 36.864)MHz |
| H | load capacitance: H = 20pF |
| B | adjustment tolerance at +25°C: C = ± 10 ppm |
| B | temperature tolerance: B = ± 10 ppm |
| I | temperature range: I = (-10 +60)°C |
| OPTIONS | |
| load capacitance | A: 8pF, B: 9pF, C: 10pF, D: 12pF, E: 15pF, F: 16pF, G: 18pF, H: 20pF, J: 32pF, S: series |
| adjustment tolerance | A: ± 5 ppm, B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm |
| temperature tolerance | A: ± 5 ppm, B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm |
| temperature range | B: (0 +55)°C, I: (-10 +60)°C, C: (-20 +70)°C, L: (-40 +85)°C |

XW sub miniature crystal

XW dimensions(mm)

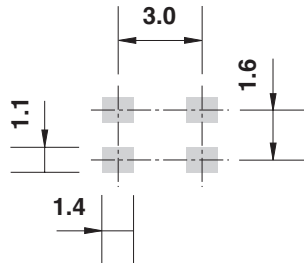
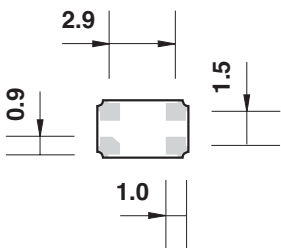


Top view

pads #1 and #3 crystal pad #4 connected to metal lid

ESR - equivalent series resistance

| frequency range(MHz) | cut/mode | esr(Ω) |
|----------------------|----------|-----------------|
| 12.0 ~ 16.0 | AT1 | <60 |
| 16.0 ~ 32.0 | AT1 | <60 |
| 32.0 ~ 36.864 | AT1 | <40 |



suggested pad layout