

# Crystal Unit

## YSX221SL Small Size



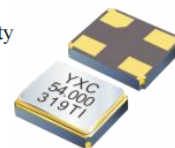
### Applications

- Smart Wearable
- TWS
- IOT

### Features

- Dimensions: 2.50 x 2.05 x 0.55mm
- Standard Frequency: 12 ~ 54MHz

- High Precision and Tight Frequency Stability
- Excellent Heat Resistance and Environmental Characteristics



## Specifications (规格参数)

| Item                                                    | Symbol           | Specifications               |
|---------------------------------------------------------|------------------|------------------------------|
| Nominal Frequency Range<br>额定频率范围                       | f <sub>nom</sub> | 12 ~ 54MHz, or specify       |
| Vibration Mode<br>震动模式                                  | -                | AT Fundamental               |
| Load Capacitance<br>负载电容                                | CL               | 8pF, 10pF, 20pF, or specify  |
| Frequency Tolerance<br>频率偏差 (at 25°C)                   | f <sub>tol</sub> | ±10ppm, ±20ppm, or specify   |
| Frequency Versus Temperature Characteristics<br>频率-温度特性 | f <sub>tem</sub> | ±20ppm, or specify           |
| Operating Temperature<br>工作温度                           | T <sub>use</sub> | -40~+85°C, or specify        |
| Storage Temperature<br>储存温度                             | T <sub>stg</sub> | -55~125°C                    |
| Shunt Capacitance<br>静态电容                               | C0               | 3pF Max                      |
| Level of Drive<br>激励电平                                  | DL               | 10~200μW Max (100μW typical) |
| Aging<br>老化(at 25°C)                                    | f <sub>age</sub> | ±3ppm/year Max               |

## Equivalent Series Resistance (等效串联电阻(ESR))

| YSX221SL   |          |
|------------|----------|
| 12 ~ 14MHz | 150Ω Max |
| 15 ~ 30MHz | 100Ω Max |
| 31 ~ 48MHz | 60Ω Max  |
| 49 ~ 54MHz | 50Ω Max  |

## Dimensions and Recommended Land Pattern (外观尺寸及推荐焊盘)

| Dimensions (Unit: mm)                                                                                                                                    | Recommended Land Pattern (Unit: mm)                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Top View: 2.5±0.1 x 2.05±0.1 mm, Marking area.</p> <p>Side View: 0.55±0.10 mm height.</p> <p>Bottom View: 0.9 x 0.7 mm pads, pins #1, #2, #3, #4.</p> | <p>Top View Crystal Connection: GND, #1, #2, #3, #4.</p> <p>Top View Suggested Layout: 1.0 x 0.9 mm pads, 0.85 mm spacing, pins #1, #2, #3, #4.</p> |