

## Features

- Frequency range : 24MHz to 80MHz
- Extremely small SMD type crystal
- 4 pad AuSn sealing, ceramic package
- High precision and frequency stability
- External dimensions (mm)  
L : 1.2 x W : 1.0 x H : 0.33
- RoHS and REACH compliant & Pb free

## Applications

- Wearable devices
- Wi-Fi, BT or other wireless module
- IoT devices
- Smart phone
- Space limited application

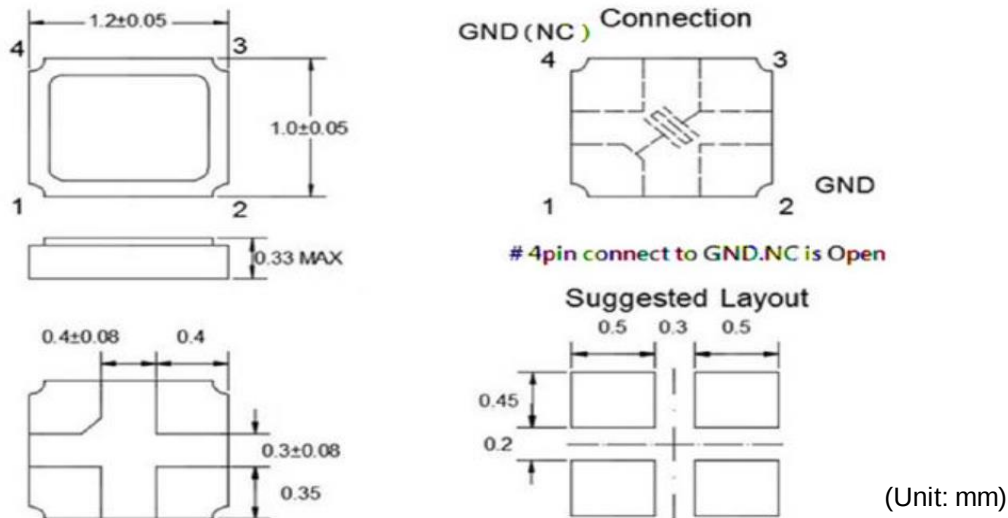
## Electrical Characteristics

| Item                                                                 |             | QT121S                                                       | Conditions                                 |
|----------------------------------------------------------------------|-------------|--------------------------------------------------------------|--------------------------------------------|
| Frequency Range                                                      | $F_0$       | 24MHz ~ 80MHz                                                |                                            |
| Frequency Tolerance                                                  | $F_{tol}$   | $\pm 30\text{ppm}$ , $\pm 20\text{ppm}$ , $\pm 10\text{ppm}$ | at 25°C                                    |
| Frequency Stability over Operating Temperature Range (refer to 25°C) | $F_{stab}$  | $\pm 30\text{ ppm}$                                          | -20°C ~ +70°C                              |
|                                                                      |             | $\pm 20\text{ ppm}$                                          |                                            |
|                                                                      |             | $\pm 10\text{ ppm}$                                          |                                            |
|                                                                      |             | $\pm 10\text{ ppm}$                                          | -30°C ~ +85°C                              |
|                                                                      |             | $\pm 30\text{ ppm}$                                          | -40°C ~ +85°C                              |
|                                                                      |             | $\pm 20\text{ ppm}$                                          |                                            |
| Operating Temperature Range                                          | $T_{OTR}$   | -20°C ~ +70°C                                                |                                            |
|                                                                      |             | -40°C ~ +85°C                                                |                                            |
| Shunt Capacitance                                                    | $C_0$       | 3pF Max.                                                     |                                            |
| Drive Level                                                          | $D_L$       | 1 ~ 200μW (100μW Typ.)                                       |                                            |
| Load Capacitance                                                     | $C_L$       | 6pF, 7pF, 8pF, 9pF, 10pF, 12pF, 16pF, 18pF                   |                                            |
| Aging                                                                | $F_{aging}$ | $\pm 3\text{ ppm Max.}$                                      | at 25°C $\pm 3^\circ\text{C}$ , first year |
| Storage Temperature Range                                            | $T_{STR}$   | -55°C ~ +125°C                                               |                                            |

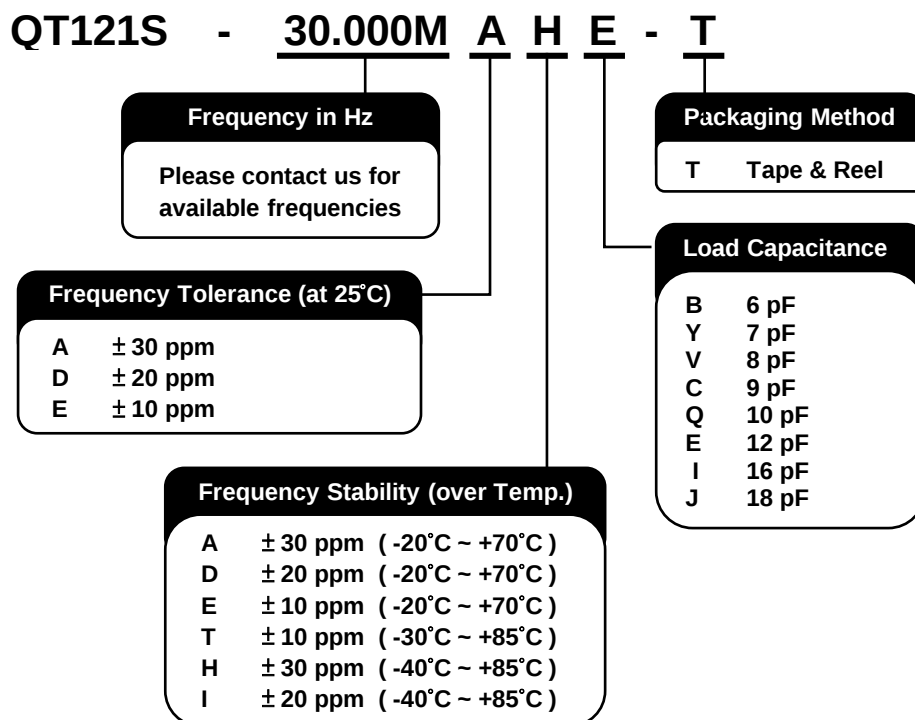
## Motional Resistance (ESR)

| Fundamental   |           |
|---------------|-----------|
| 24 ~ 32 MHz   | 100Ω Max. |
| 37.4 ~ 48 MHz | 80Ω Max.  |
| > 48 MHz      | 60Ω Max.  |

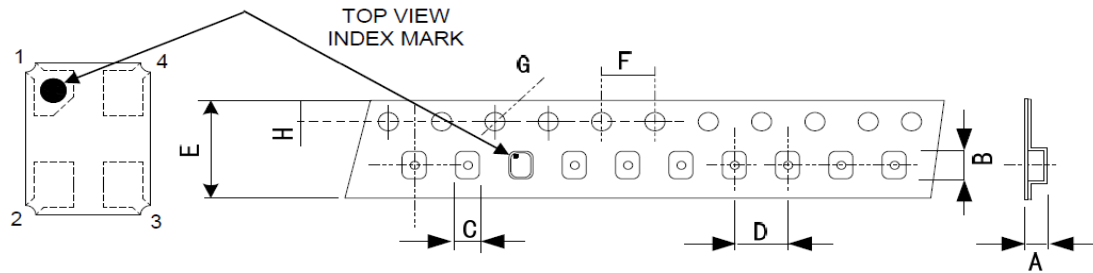
## Dimensions



## Ordering Information

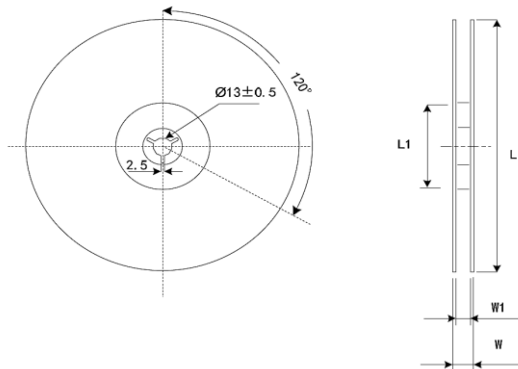


## Packing



| DIMENSIONS | A             | B             | C             | D             | E             | F             | G             | H             |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|            | 0.45<br>±0.05 | 1.30<br>±0.05 | 1.10<br>±0.05 | 4.00<br>±0.10 | 8.00<br>±0.20 | 4.00<br>±0.10 | 1.55<br>±0.05 | 1.75<br>±0.10 |

(Unit: mm)



| DIMENSIONS | L            | L1            | W            | W1         |
|------------|--------------|---------------|--------------|------------|
|            | 178<br>±1.00 | 60.2<br>±0.50 | 11.5<br>±0.2 | 8<br>+1/-0 |

(Unit: mm)

## Reflow Profile

Solder melting point : 220°C ± 10°C, 60 sec. Min.

Peak temperature : 260°C ± 10°C, 10 sec. Min.

