



actual size

# SMD Quartz Crystal · JXS21-WA

- for wireless applications, 2.0 x 1.6 mm
- perfect reference crystal for wireless applications
- for IoT using BlueTooth, ZigBee, NFC and more
- high frequency stability and low ESR
- metal lid allows EMI shielding



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

| TYPE                                          | JXS21-WA                                                                                           |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------|
| special frequencies for wireless applications | 22 standard frequencies shown in ESR list (for other frequencies refer to general JXS21 datasheet) |
| frequency tolerance at 25 °C                  | ±10 ppm*                                                                                           |
| load capacitance $C_L$                        | 6 pF / 7 pF / 8 pF / 9 pF / 10 pF / 12 pF*                                                         |
| shunt capacitance $C_0$                       | < 3 pF                                                                                             |
| storage temperature                           | -40 °C ~ +105 °C                                                                                   |
| drive level max.                              | 100 µW (10 µW recommended)                                                                         |
| aging                                         | < ± 1 ppm first year                                                                               |

\* for different specs please ask for availability

TABLE 1: FREQUENCY STABILITY CODE

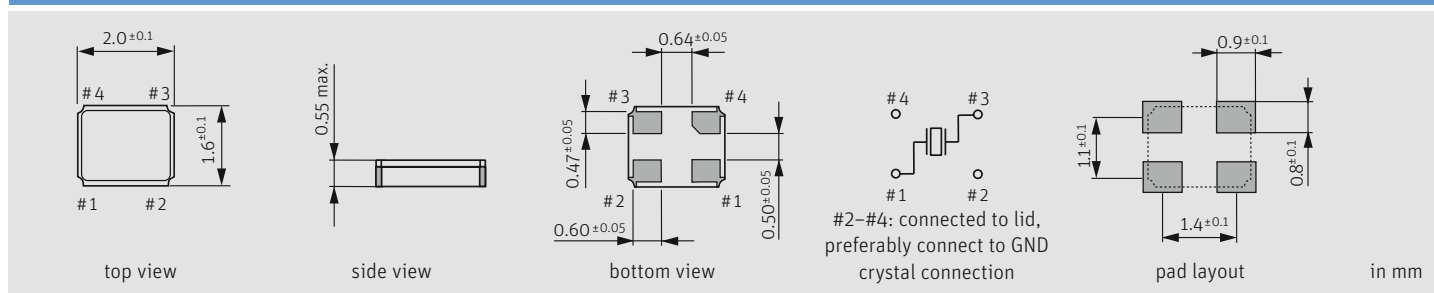
|                  |            | ± 10 ppm | ±13 ppm | ±15 ppm | ±20 ppm | ±25 ppm | ±30 ppm |
|------------------|------------|----------|---------|---------|---------|---------|---------|
| -20 °C ~ +70 °C  | STD.       | ●        |         | ○       | ○       | ○       | ○       |
| -30 °C ~ +85 °C  | T(-30/+85) |          | ○       | ○       | ○       | ○       | ○       |
| -40 °C ~ +85 °C  | T1         |          | △       | ●       | ○       | ○       | ○       |
| -40 °C ~ +105 °C | T2         |          |         |         |         | △       | ●       |

● standard ○ available △ ask if available

## ESR (SERIES RESISTANCE RS)

| frequency in MHz | vibration mode | ESR max. in Ω | ESR typ. in Ω |
|------------------|----------------|---------------|---------------|
| 16.0             | fund. - AT     | 120           | 80            |
| 19.20            | fund. - AT     | 120           | 80            |
| 20.0             | fund. - AT     | 100           | 60            |
| 24.0             | fund. - AT     | 80            | 40            |
| 25.0 / 26.0      | fund. - AT     | 60            | 30            |
| 27.120 / 30.0    | fund. - AT     | 60            | 25            |
| 32.0             | fund. - AT     | 50            | 25            |
| 37.40 / 38.40    | fund. - AT     | 40            | 25            |
| 40.0 / 48.0      | fund. - AT     | 40            | 20            |
| 52.0 / 54.0      | fund. - AT     | 40            | 20            |
| 55.20 / 59.970   | fund. - AT     | 40            | 20            |
| 60.0 / 62.50     | fund. - AT     | 40            | 20            |
| 64.0             | fund. - AT     | 40            | 20            |
| 76.80            | fund. - AT     | 40            | 20            |
| 80.0             | fund. - AT     | 40            | 20            |

## DIMENSIONS



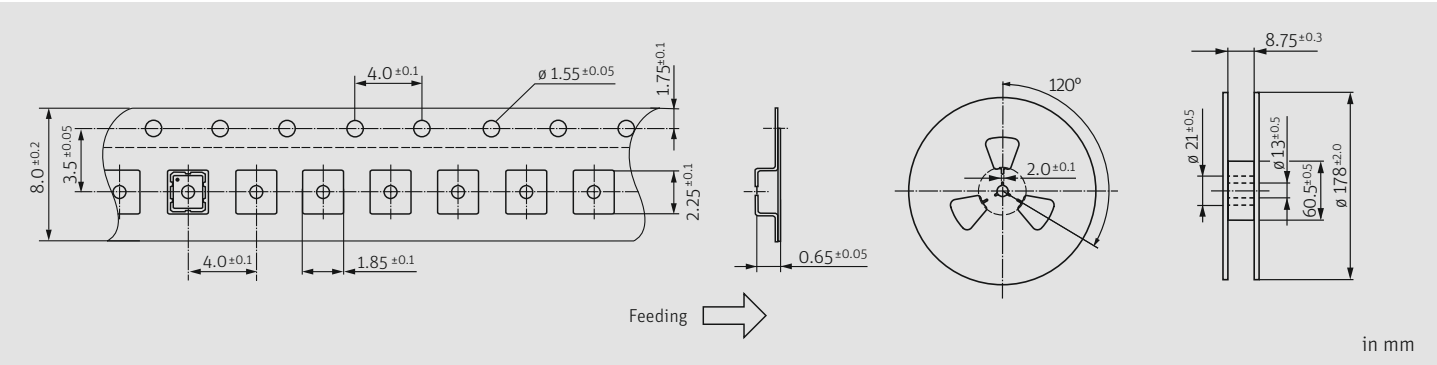
## ORDER INFORMATION

| Q      | frequency                   | type  | load capacitance           | tolerance at 25 °C | stability vs. temp. range                                                                    | option 1                                                                                                                                              | option 2                      |
|--------|-----------------------------|-------|----------------------------|--------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Quartz | see frequencies in ESR list | JXS21 | 6 / 7 / 8 / 9 / 10 / 12 pF | 10 = ±10 ppm std.  | 10 = ±10 ppm<br>13 = ±13 ppm<br>15 = ±15 ppm<br>20 = ±20 ppm<br>25 = ±25 ppm<br>30 = ±30 ppm | blank = -20 °C ~ +70 °C<br>T(-30/+85) = -30 °C ~ +85 °C<br>T1 = -40 °C ~ +85 °C<br>T2 = -40 °C ~ +105 °C<br>FU = for fundamental frequencies ≥ 20 MHz | WA = for wireless application |

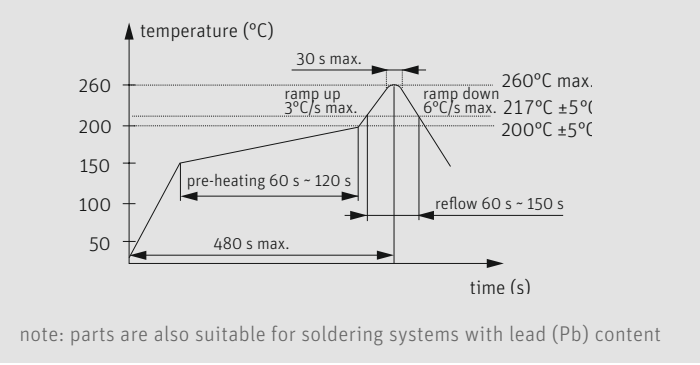
Example: Q 26.0-JXS21-8-10/15-T1-FU-WA-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

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## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



## LOAD CAPACITANCE CODES

- 6 pF: q
- 7 pF: m
- 8 pF: k
- 9 pF: n
- 10 pF: h
- 12 pF: a
- series: S

example 26.0 MHz / 8 pF: 26k00

\* hand soldering temperature should not exceed 280 °C

## MARKING

| frequency with load capacitance code     |         |         |         |         |         |
|------------------------------------------|---------|---------|---------|---------|---------|
| company code / date code / internal code |         |         |         |         |         |
| date code: A ~ M: Jan. - Dec.            |         |         |         |         |         |
| 4: 2024                                  | 5: 2025 | 6: 2026 | 7: 2027 | 8: 2028 | 9: 2029 |
| Jan.                                     | Febr.   | Mar.    | Apr.    | May     | June    |
| A                                        | B       | C       | D       | E       | F       |
| July                                     | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    |
| G                                        | H       | J       | K       | L       | M       |