

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	14 standard frequencies shown in ESR list (for other frequencies refer to general JXS21 datasheet)
frequency tolerance at 25 °C	±10 ppm*
load capacitance $C_L$	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	fund. - AT	60	30
26.0	fund. - AT	60	25
27.120	fund. - AT	60	25
30.0	fund. - AT	60	25
32.0	fund. - AT	50	25
37.40	fund. - AT	50	25
38.40	fund. - AT	50	25
40.0	fund. - AT	50	25
48.0	fund. - AT	50	20
52.0	fund. - AT	50	20

## DIMENSIONS

top view: 2.0±0.1 mm width, 1.6±0.1 mm height, pins #1, #2, #3, #4.

side view: 0.55 mm max. height.

bottom view: 0.64±0.05 mm distance between pins, 0.47±0.05 mm pin diameter, 0.60±0.05 mm distance between pads, 0.50±0.05 mm pad diameter.

crystal connection: pins #1, #2, #3, #4.

pad layout: 0.9±0.1 mm pad diameter, 1.1±0.1 mm pad spacing, 1.4±0.1 mm pad diameter, 0.8±0.1 mm pad diameter.

in mm

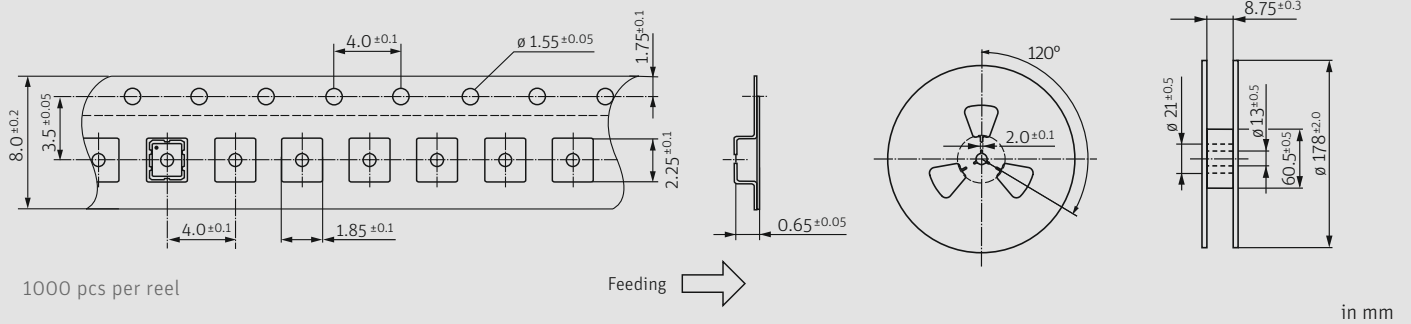
## ORDER INFORMATION

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

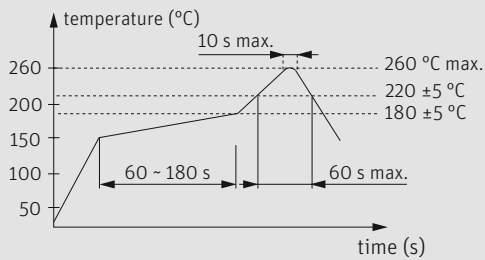
Example: Q 26.0-JXS21-12-10/15-T1-FU-WA-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

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## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



note: parts are also suitable for soldering systems with lead (Pb) content

## LOAD CAPACITANCE CODES

8 pF: k	14 pF: x	22 pF: g	series: s
9 pF: n	15 pF: j	24 pF: d	T: 3rd OT
10 pF: h	16 pF: b	25 pF: r	
11 pF: l	17 pF: t	27 pF: w	
12 pF: a	18 pF: f	30 pF: .	
13 pF: v	20 pF: c		

example 20.0 MHz / 12 pF: 20a00

\* 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.

7: 2017    8: 2018    9: 2019    0: 2020    1: 2021    2: 2022

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F
July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M