



actual size

# SMD Quartz Crystal · JXS22

- 4 Pad Version, 2.5 x 2.0 mm
- seam sealed ceramic/metal package
- extended temperature ranges available
- high mechanical reliability type available
- for automotive type, see automotive datasheet



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA	
TYPE	JXS22
frequency range	12.0 ~ 54.0 MHz (fund. AT-cut)
frequency tolerance at 25 °C	± 10 ppm / ± 30 ppm
load capacitance $C_L$	8/10/12 pF standard (option: 6 pF ~ 30 pF / series)
shunt capacitance $C_0$	< 5 pF
storage temperature	-40 °C ~ +90 °C
drive level max.	100 µW (10 µW recommended)
aging	< ± 3 ppm first year (option: < ± 1 ppm first year for tol. ± 10 ppm)

ESR (SERIES RESISTANCE RS)			
frequency in MHz	vibration mode	ESR max. in Ω	ESR typ. in Ω
12.0 ~ 12.999	fund. - AT	150	120
13.0 ~ 15.999	fund. - AT	150	100
16.0 ~ 17.999	fund. - AT	80	50
18.0 ~ 19.999	fund. - AT	80	40
20.0 ~ 24.999	fund. - AT	60	35
25.0 ~ 29.999	fund. - AT	60	30
30.0 ~ 34.999	fund. - AT	50	25
35.0 ~ 54.000	fund. - AT	40	20

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE							
		± 10 ppm	±15 ppm	±20 ppm	±30 ppm	±50 ppm	±100 ppm
-20 °C ~ +70 °C	STD.	●	○	○	●	○	○
-40 °C ~ +85 °C	T1		○	○	○	○	○
-40 °C ~ +105 °C	T2			○	○	○	○
-40 °C ~ +125 °C	T3					○	○

MARKING						
frequency with load capacitance code						
company code / date code / internal code						
date code: year/month; A ~ M: Jan. - Dec.; example: 8A = 2018 January						
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	

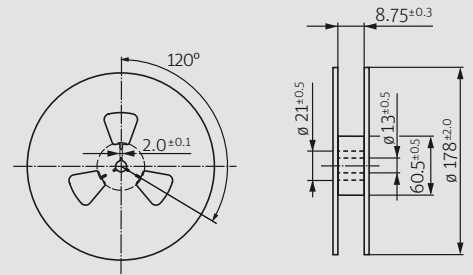
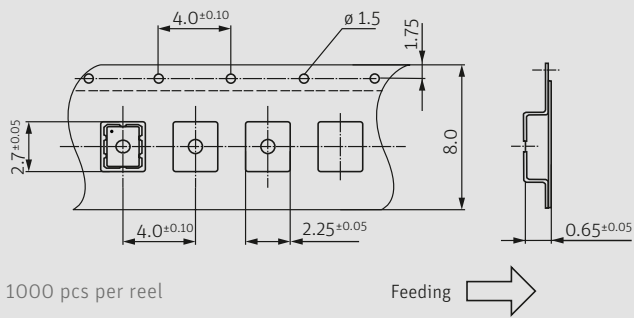
**DIMENSIONS**

top view      side view      bottom view      crystal connection      pad layout      in mm

ORDER INFORMATION						
Q	frequency	type	load capacitance	tolerance at 25 °C	stability vs. temp. range	option
Quartz	12.0 ~ 54.0 MHz	JXS22	8/10/12 pF standard 6 pF ~ 30 pF available S for series	10 = ± 10 ppm 30 = ± 30 ppm	10 = ± 10 ppm 15 = ± 15 ppm 20 = ± 20 ppm 30 = ± 30 ppm 50 = ± 50 ppm 100 = ± 100 ppm	blank = -20 °C ~ + 70 °C T1 = -40 °C ~ + 85 °C T2 = -40 °C ~ +105 °C T3 = -40 °C ~ +125 °C FU = for fundamental frequencies ≥ 20 MHz HMR = high mechanical reliability (3000g/half sine wave/0.3ms)
<b>Example: Q 32.0-JXS22-12-10/20-T1-FU-LF</b> (Suffix LF = RoHS compliant / Pb free)						

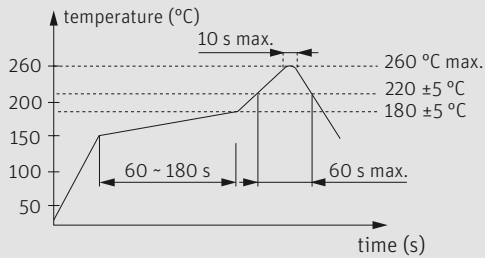
# SMD Quartz Crystal · JXS22

## TAPING SPECIFICATION



in mm

## 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