



actual size

# Automotive SMD Crystal · JXS11P4

- 4 Pad Version, 1.6 x 1.2 mm
- seam sealed ceramic / metal package
- all versions are AEC-Q200 qualified
- HMR version with extended shock & vibration immunity



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE	JXS11P4
frequency range	24.0 ~ 60.0 MHz (fund. AT-cut)
frequency tolerance at 25 °C	± 10 ppm / ± 20 ppm / ± 30 ppm
load capacitance $C_L$	8 pF standard (option: 6 pF ~ 12 pF / series)
shunt capacitance $C_0$	< 3 pF
storage temperature	-40 °C ~ +125 °C
drive level max.	100 $\mu$ W (10 $\mu$ W recommended)
shock resistance	> 100 g (half sine pulse, 6.0 ms)*
aging	< ± 3 ppm first year (option: < ± 1 ppm first year for tol. ± 10 ppm)

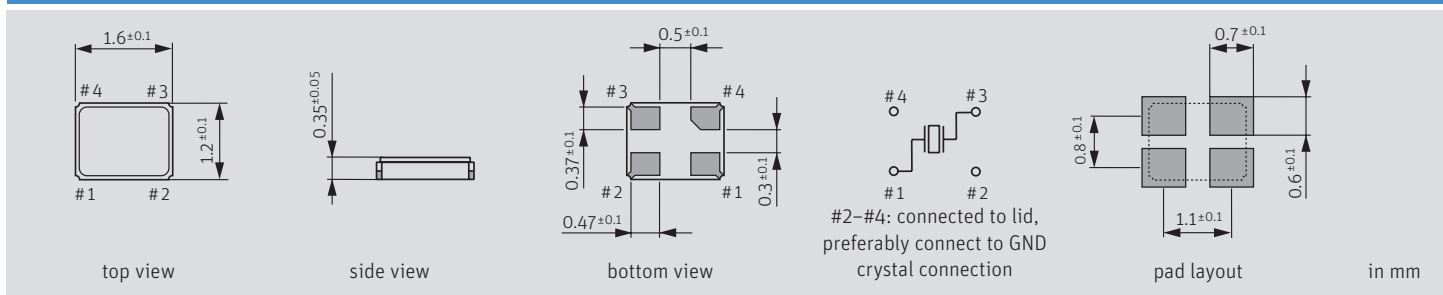
\* optional HMR version: 3000G / half sine pulse / 0.3 ms

## TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

		± 15 ppm	± 20 ppm	± 25 ppm	± 30 ppm	± 50 ppm	± 100 ppm
-40 °C ~ + 85 °C	T1	△	○	○	○	○	○
-40 °C ~ +105 °C	T2			△	○	○	○
-40 °C ~ +125 °C	T3					△	○

○ available △ ask if available

## DIMENSIONS



## ESR (SERIES RESISTANCE RS)

frequency in MHz	vibration mode	ESR max. in $\Omega$	ESR typ. in $\Omega$
24.0 ~ 25.999	fund. AT	90	60
26.0 ~ 29.999	fund. AT	90	55
30.0 ~ 39.999	fund. AT	80	50
40.0 ~ 60.000	fund. AT	60	40

## MARKING

frequency with load capacitance code  
company code / date code

date code: year/month; A ~ M: Jan. - Dec.; example: 3A = 2023 January  
3: 2023 4: 2024 5: 2025 6: 2026 7: 2027 8: 2028

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

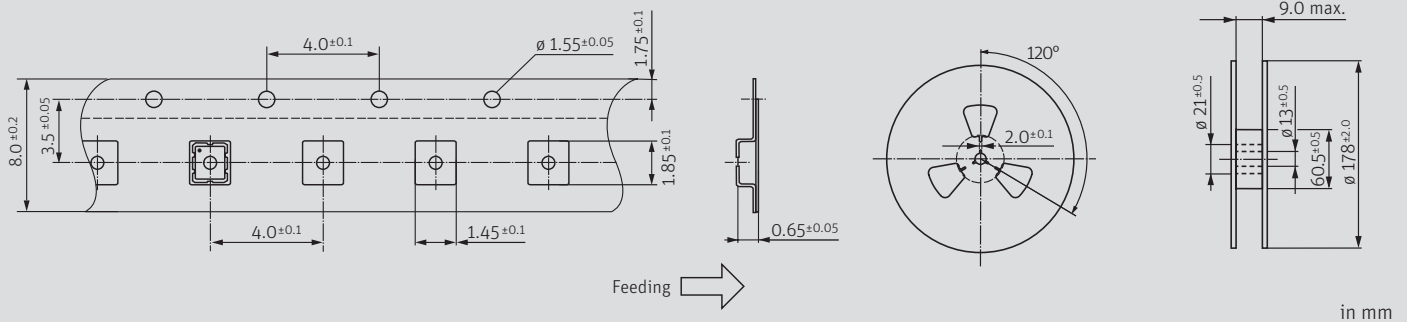
## ORDER INFORMATION

Q	frequency	type	load capacitance	tolerance at 25 °C	stability vs. temp. range	option 1	option 2
Quartz	24.0 ~ 60.0 MHz	JXS11P4	8 pF standard 6 pF ~ 12 pF available S for series	10 = ± 10 ppm 20 = ± 20 ppm 30 = ± 30 ppm	see table 1	T1 = -40 °C ~ + 85 °C T2 = -40 °C ~ +105 °C T3 = -40 °C ~ +125 °C	AEC = AEC-Q200 qualified HMR = high mechanical reliability (3000g/half sine wave/0.3ms) FU = for fundamental frequencies ≥ 20 MHz

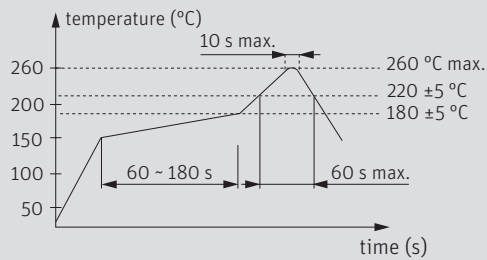
**Example: Q 32.0-JXS11P4-8-30/50-T2-FU-AEC-LF** (Suffix LF = RoHS compliant / Pb free)

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## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



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

## LOAD CAPACITANCE CODES

6 pF: q	12 pF: a	18 pF: f	27 pF: w
7 pF: m	13 pF: v	20 pF: c	30 pF: .
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		

example 30.0 MHz / 8 pF: 30k0