actual size

Automotive SMD Crystal · JXS22P4

4 Pad Version · 2.5 x 2.0 mm

- seam sealed ceramic/metal package
- all versions are AEC-Q200 qualified
- HMR version with extended shock & vibration immunity
- reflow soldering temperature: 260 °C max.

RoHS 2011/65/EC — RoHS compliant

Pb free: pins / pads

General Data

type	JXS22P4	
frequency range	12.0 ~ 40.0 MHz	(fund. AT-cut)
frequency tolerance at 25 °C	± 10 ppm, ± 20 ppm, ± 30 ppm	
load capacitance C_L	12 pF standard	(option: 8 pF ~ 30.0 pF / series)
shunt capacitance C_0	< 5 pF	
storage temperature	-40 °C ~ +125 °C	
shock resistance	> 100 g	(half sine pulse, 6.0 ms)*
drive level max.	100 µW	(10 µW recommended)
aging	< ± 3 ppm first year	(< ± 1 ppm for tol. ± 10 ppm)

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

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 ~ 40.000	fund. - AT	40	20

Frequency Stability vs. Temperature

		± 15 ppm	± 20 ppm	± 30 ppm	± 50 ppm	± 100 ppm
-20 °C ~ +70 °C		D	D	D	D	D
-40 °C ~ +85 °C	T1	D	O	O	O	O
-40 °C ~ +105 °C	T2				D	O
-40 °C ~ +125 °C	T3				D	O

O available
D ask if available

Marking

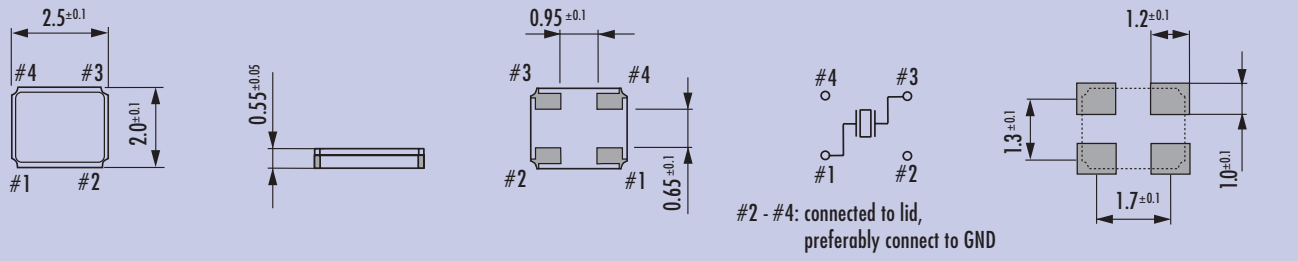
frequency with load capacitance code
company code / date code / internal code

date code: year/month
example: 6A = 2016 January

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 — #2 - #4: connected to lid, preferably connect to GND — crystal connection — pad layout — in mm

Order Information

Q – frequency – type – load capacitance – stability at 25 °C / stability vs. temp. range – option 1 – option 2

Quartz — 12.0 ~ 40.0 MHz — JXS22

load capacitance:
12 pF standard
10 pF ~ 30 pF
S for series

stability at 25 °C:
10 = ± 10 ppm
30 = ± 30 ppm
50 = ± 50 ppm

stability vs. temp. range: see table

option 1:
blank = -20 °C ~ +70 °C
T (-30/+85) = -30 °C ~ +85 °C
T1 = -40 °C ~ +85 °C
T2 = -40 °C ~ +105 °C
T3 = -40 °C ~ +125 °C
FU = for fundamental frequencies ≥ 20 MHz

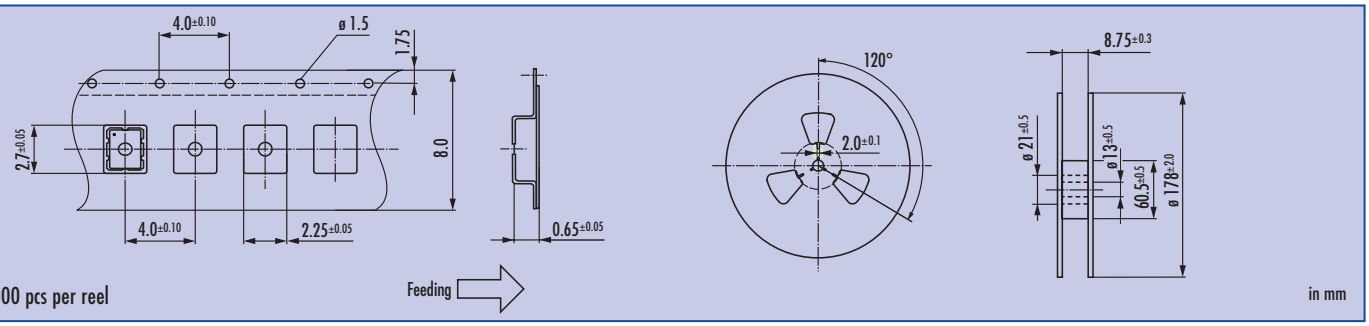
option 2:
AEC = AEC-Q200 qualified
HMR = high mechanical reliability (3000g/half sine wave/0.3ms)

Example: Q 30.0-JXS22P4-12-30/50-T2-FU-AEC-LF (Suffix LF = RoHS compliant / Pb free pads)

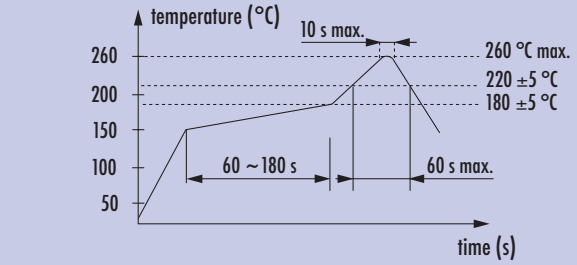
Jauch Quartz GmbH • e-mail: info@jauch.de
full data can be found under: www.jauch.de / www.jauch.co.uk / www.jauch.fr / www.jauchusa.com

Automotive SMD Crystal · JXS22P4

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