



actual size

# SMD Quartz Crystal · JXS32

4 Pad Version · 3.2 x 2.5 mm

- seam sealed ceramic/metal package
- extended temperature ranges available
- high mechanical reliability type available
- for automotive type, see automotive datasheet



## General Data

type	JXS32	
frequency range	10.0 ~ 54.0 MHz	(fund. AT-cut)
frequency tolerance at 25 °C	± 10 ppm / ± 30 ppm	
load capacitance $C_L$	12 pF standard	(option: 8 pF ~ 30 pF / series)
shunt capacitance $C_0$	< 5 pF	
storage temperature	-40 °C ~ +90 °C	
drive level max.	100 µW	
aging	< ± 3 ppm first year	

## ESR (series resistance Rs)

frequency in MHz	vibration mode	ESR max. in Ω	ESR typ. in Ω
10.0 ~ 11.999	fund. - AT	300	150
12.0 ~ 12.999	fund. - AT	100	50
13.0 ~ 15.999	fund. - AT	100	40
16.0 ~ 18.999	fund. - AT	80	40
19.0 ~ 21.999	fund. - AT	60	30
22.0 ~ 29.999	fund. - AT	50	25
30.0 ~ 54.000	fund. - AT	50	20

## Frequency Stability vs. Temperature

		± 10 ppm	± 15 ppm	± 20 ppm	± 30 ppm	± 50 ppm	± 100 ppm
-20 °C ~ +70 °C	STD.	●	○*	○	●	○	○
-30 °C ~ +85 °C	T (-30/+85)		□				
-40 °C ~ +85 °C	T1		◇	○	○*	●	○
-40 °C ~ +105 °C	T2					○	○
-40 °C ~ +125 °C	T3					○	○

● standard ○ available ◇ for frequencies > 20 MHz, ask if available < 20 MHz □ for frequencies < 20 MHz  
\* best value for frequencies < 12.0 MHz

## Marking

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

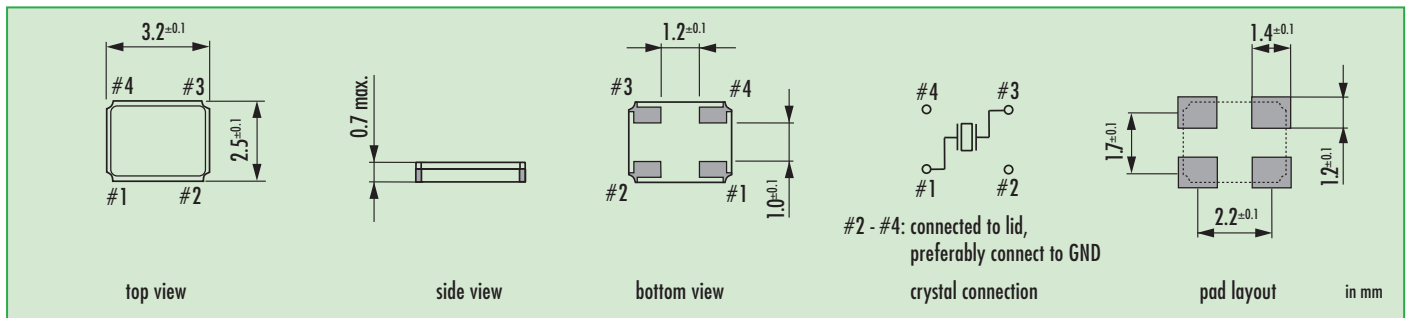
date code: year/month

example: 4A = 2014 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



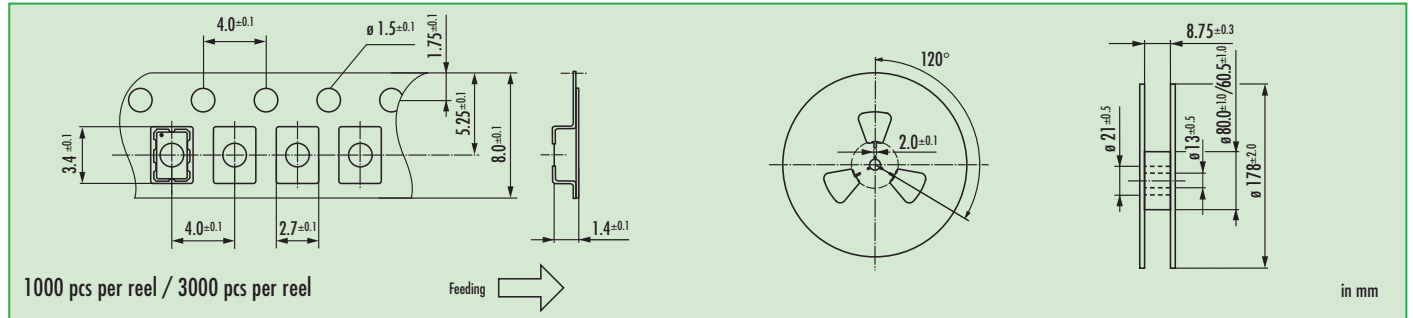
## Order Information

Q	frequency	type	load capacitance	stability at 25 °C	stability vs. temp. range	option
Quartz	10.0 ~ 54.0 MHz	JXS32	12 pF standard 8 pF ~ 30 pF 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 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 HMR = high mechanical reliability (3000g/half sine wave/0.3ms)

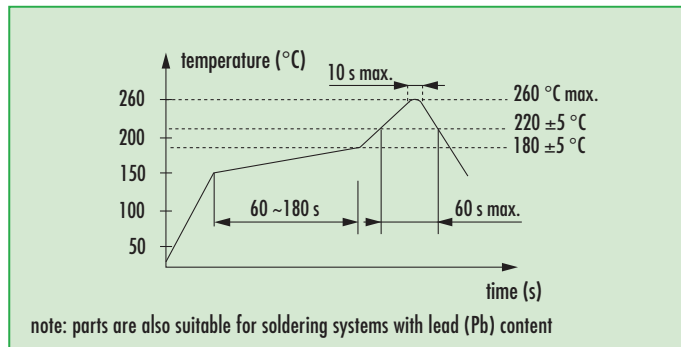
Example: Q 28.0-JXS32-12-30/30-FU-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

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## Taping Specification



## Reflow Soldering Profile



## 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