



actual size

# SMD Quartz Crystal · J49SML

- 2 pad version, 11.5 x 4.8 mm
- low cost SMD type
- reflow soldering temperature: 260 °C max.
- package height 3.0 mm max.



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE	J49SML
frequency range	4.0 MHz
	8.0 MHz
	12.0 MHz
	16.0 MHz
	20.0 MHz
	24.0 MHz
frequency tolerance at 25 °C	±30 ppm
load capacitance $C_L$	12 pF / 18 pF / 30 pF
shunt capacitance $C_0$	< 5 pF
storage temperature	-40 °C ~ +125 °C
drive level max.	500 µW (100 µW recommended)
aging	< ±5 ppm first year

## ESR (SERIES RESISTANCE RS)

frequency in MHz	vibration mode	ESR max. in $\Omega$	ESR typ. in $\Omega$
4.0 MHz	fund. - AT	80	60
8.0 MHz	fund. - AT	50	25
12.0 MHz	fund. - AT	35	15
16.0 MHz	fund. - AT	30	10
20.0 MHz	fund. - AT	30	10
24.0 MHz	fund. - AT	30	10
25.0 MHz	fund. - AT	30	10

## FREQUENCY STABILITY VS. TEMPERATURE

Stability code	<b>G</b> ±30 ppm
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## LOAD CAPACITANCE CODES

12 pF : <b>A</b>
18 pF : <b>F</b>
30 pF : <b>P</b>

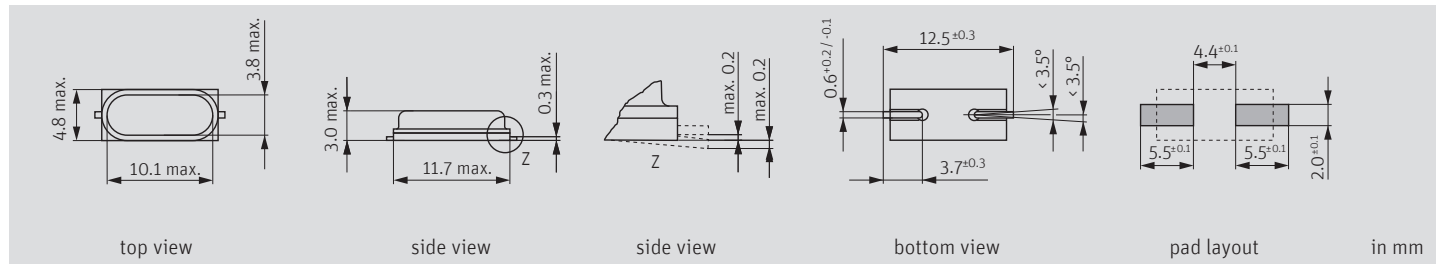
## FREQUENCY TOLERANCE

Frequency tolerance code	<b>G</b> ±30 ppm
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## OPERATING TEMPERATURE

Operating temperature code	<b>K</b> -40°C - +85°C
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## DIMENSIONS



## ORDER INFORMATION

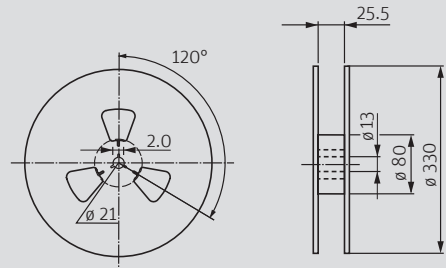
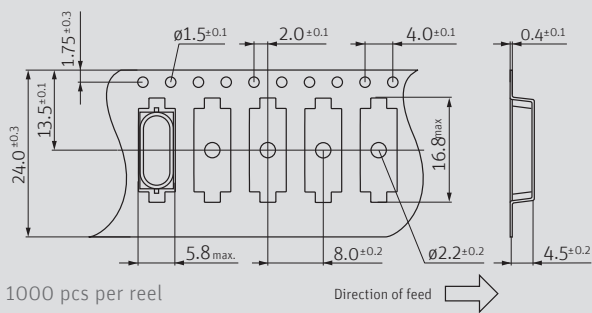
J49SML-A-G-G-K-4M0	J49SML-P-G-G-K-12M0	J49SML-F-G-G-K-24M0
J49SML-F-G-G-K-4M0	J49SML-A-G-G-K-16M0	J49SML-P-G-G-K-24M0
J49SML-P-G-G-K-4M0	J49SML-F-G-G-K-16M0	J49SML-A-G-G-K-25M0
J49SML-A-G-G-K-8M0	J49SML-P-G-G-K-16M0	J49SML-F-G-G-K-25M0
J49SML-F-G-G-K-8M0	J49SML-A-G-G-K-20M0	J49SML-P-G-G-K-25M0
J49SML-P-G-G-K-8M0	J49SML-F-G-G-K-20M0	
J49SML-A-G-G-K-12M0	J49SML-P-G-G-K-20M0	
J49SML-F-G-G-K-12M0	J49SML-A-G-G-K-24M0	

Ordering example: J49SML-A-G-G-K-4M0 J49SML, 12pF Load Capacitance, 30ppm Freq tolerance, 30ppm Freq stability, -40-85 operating temp, 4MHz



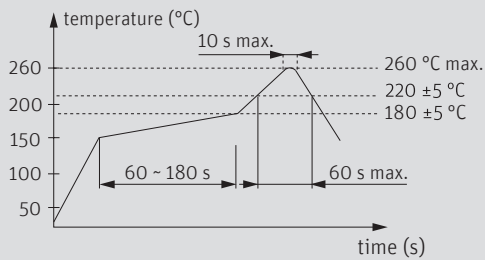
# SMD Quartz Crystal · J49SML

## TAPING SPECIFICATION



in mm

## REFLOW SOLDERING PROFILE



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

## MARKING

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

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z
2021	A	B	C	D	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z