



actual size

# Automotive SMD Crystal · JXG53P4

- 4 Pad Version, 5.0 x 3.2 mm
- glass sealed ceramic package
- all versions are AEC-Q200 qualified
- HMR version with extended shock & vibration immunity
- RKE version withstands 100x drop test from 150 cm



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA	
TYPE	JXG53P4
frequency range	8.0 ~ 50.0 MHz (fund. AT-cut) ask for availability of lower frequencies 45.0 ~ 60.0 MHz (3rd OT AT-cut)
frequency tolerance at 25 °C	±30 ppm, ±50 ppm
load capacitance $C_L$	12 pF standard (option: 10 pF ~ 30.0 pF / series)
shunt capacitance $C_0$	< 7 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

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

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE				
		±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			○

○ available

ESR (SERIES RESISTANCE RS)			
frequency in MHz	vibration mode	ESR max. in Ω	ESR typ. in Ω
8.0 ~ 8.999	fund. - AT	300	120
9.0 ~ 9.999	fund. - AT	250	100
10.0 ~ 11.999	fund. - AT	60	35
12.0 ~ 15.999	fund. - AT	60	25
16.0 ~ 21.999	fund. - AT	50	20
22.0 ~ 24.999	fund. - AT	40	20
25.0 ~ 50.000	fund. - AT	30	20
45.0 ~ 60.000	3rd OT-AT	90	65

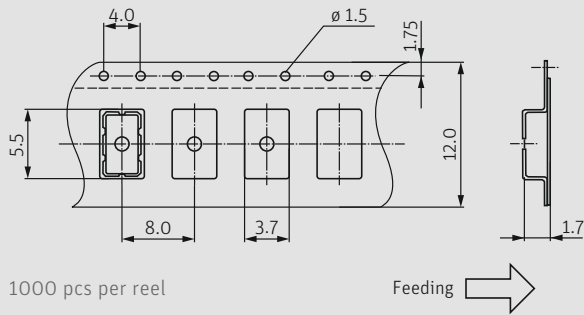
MARKING											
frequency with load capacitance code company code / date code / internal code											
date code: year/month; A ~ M: Jan. - Dec.; example 9A = 2019 January											
9:	2019	0:	2020	1:	2021	2:	2022	3:	2023	4:	2024
Jan.	Febr.	Mar.	Apr.	May	June						
A	B	C	D	E	F						
July	Aug.	Sept.	Oct.	Nov.	Dec.						
G	H	J	K	L	M						

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

ORDER INFORMATION							
Q	frequency	type	load capacitance	tolerance at 25 °C	stability vs. temp. range	option 1	option 2
Quartz	8.0 ~ 60.0 MHz	JXG53P4	12 pF standard 10 pF ~ 30 pF S for series	30 = ±30 ppm 50 = ±50 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 30T = 3rd overtone	AEC = AEC-Q200 qualified HMR = high mechanical reliability (3000g/half sine wave/0.3ms) RKE = for remote keyless entry (drop 100x / 150 cm)
<b>Example: Q 28.0-JXG53P4-12-30/30-T1-FU-AEC-LF</b> (Suffix LF = RoHS compliant / Pb free)							

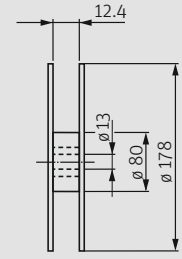
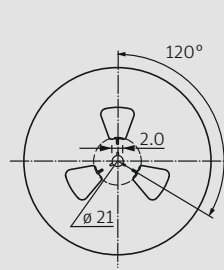
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## TAPING SPECIFICATION



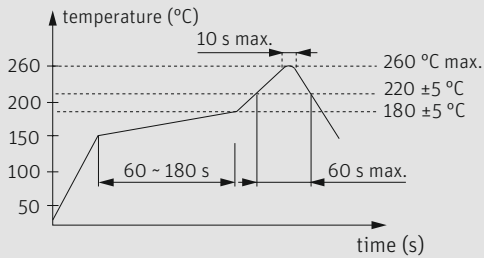
1000 pcs per reel

Feeding



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 12.0 MHz / 12 pF: 12a00