



actual size

# Quartz Crystal JTX210

- SMD Tuning Fork Crystal • 2.0 x 1.2 mm
- 32.768 kHz
- package height 0.6 mm max.
- low ESR options available



RoHS compliant



Pb free



REACH compliant



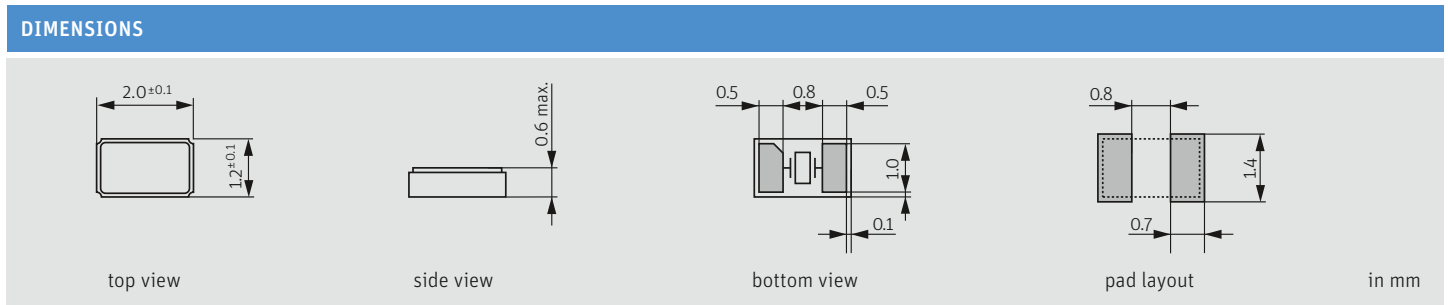
Conflict mineral free

GENERAL DATA	
TYPE	JTX210
frequency	32.768 kHz
frequency tolerance at 25 °C ± 5 °C	± 20 ppm / ± 30 ppm
load capacitance $C_L$	12.5 pF std. / 9 pF / 7 pF / 6 pF / 4 pF
temperature constant ( $T_C$ )	$T_C = -0.04 \text{ ppm} / ^\circ\text{C}^2 \text{ max.}$ $T_C = -0.034 \text{ ppm} / ^\circ\text{C}^2 \text{ typical}$
frequency temperature characteristic	$\Delta f = T_C \cdot (T_A - T_{TP})^2 \text{ in [ppm]}$ $T_A = \text{actual ambient temperature}$ $T_{TP} = 25 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$ $T_{TP} = \text{turning point temperature}$
operating temperature range	refer to frequency stability table
shunt capacitance $C_0$	1.15 pF typical
series resistance max. (ESR)	90 kΩ (for STD. and T1) 100 kΩ (for T2) 120 kΩ (for T3) 70 kΩ (option for STD. and T1) 80 kΩ (option for STD. and T1)
storage temperature	-40 °C ~ +125 °C
drive level max.	0.5 μW
aging first year	< ± 3 ppm

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE					
frequency stability		-80 ppm	-160 ppm	-250 ppm	-400 ppm
-20 °C ~ +70 °C	STD.	●			
-40 °C ~ +85 °C	T1		●		
-40 °C ~ +105 °C	T2			○	
-40 °C ~ +125 °C	T3				○

● standard ○ available

MARKING													
Factory code / CL code / date code / internal code													
CL code: A = 12.5 pF, B = 9 pF, C = 7 pF, D = 6 pF													
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2018	2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	2023	a	b	c	d	e	f	g	h	j	k	l	m
2020	2024	n	p	q	r	s	t	u	v	w	x	y	z
2021	2025	A	B	C	D	E	F	G	H	J	K	L	M



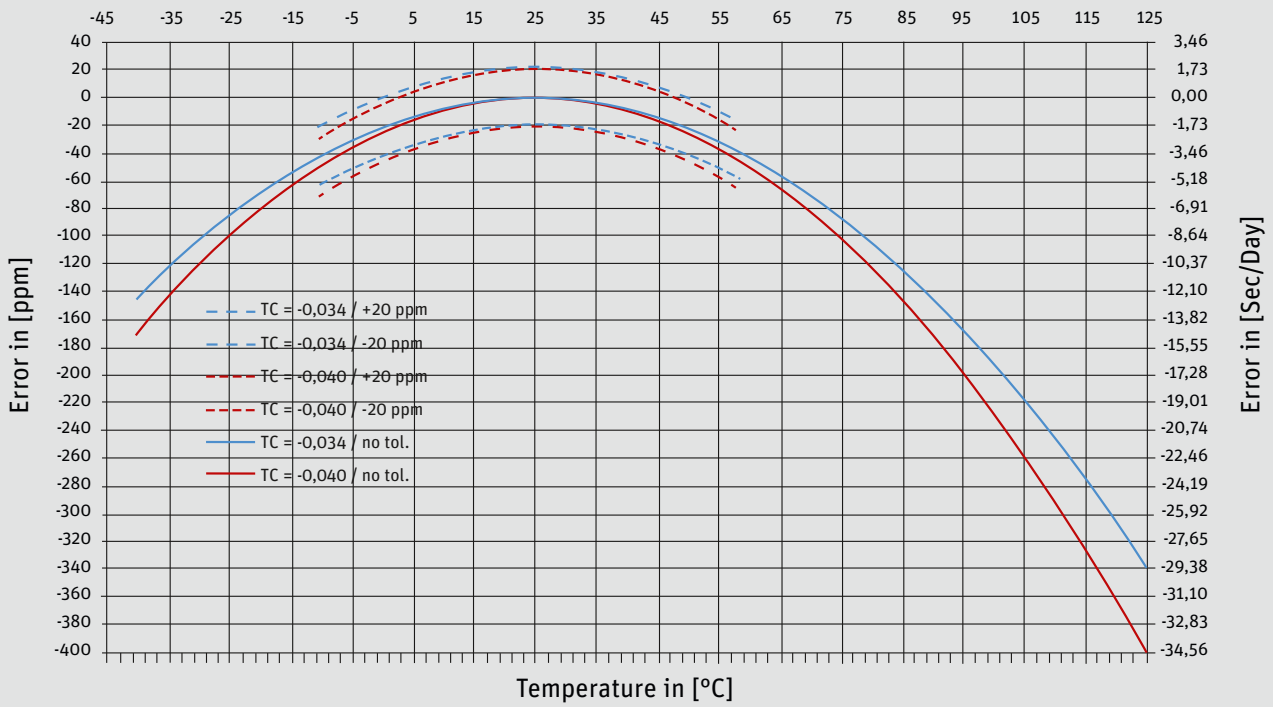
**ORDER INFORMATION**

Q	frequency	type	load capacitance	tolerance at 25 °C	option 1	option 2
Quartz	0.032768 MHz	JTX210	12.5 pF standard 9 pF 7 pF 6 pF on request 4 pF on request	20 = ± 20 ppm 30 = ± 30 ppm	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C T3 = -40 °C ~ +125 °C	none = 90 K for STD + T1 80 kΩ option for STD + T1 70 kΩ option for STD + T1 100 kΩ for T2 120 kΩ for T3

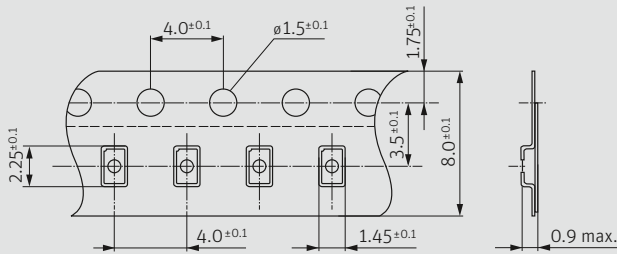
**Example: Q 0.032768-JTX210-12.5-20-T1-LF** (Suffix LF = RoHS compliant / Pb free)

# Quartz Crystal JTX210

## FREQUENCY ERROR VS. TEMPERATURE IN PPM OR SECONDS PER DAY

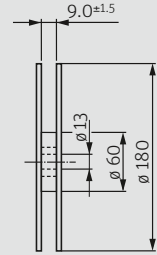
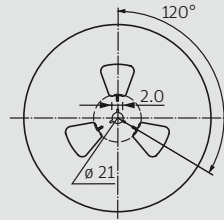


## TAPING SPECIFICATION



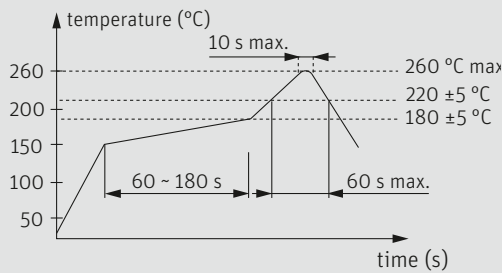
1000 or 3000 pcs per reel

Feeding



in mm

## REFLOW SOLDERING PROFILE



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