



actual size

Quartz Crystal · JTX410

SMD Tuning Fork Crystal · 4.1 x 1.5 mm

- 32.768 kHz
- reflow soldering temperature: 260 °C max.
- package height 0.9 mm max.



General Data

type	JTX 410
frequency	32.768 kHz
frequency tolerance at 25 °C ± 5 °C	± 10 ppm / ±20 ppm / ± 30 ppm
load capacitance C_L	12.5 pF (others on request)
temperature constant	$-0.04 \cdot 10^{-6} / ^\circ\text{C}^2$ max. $-0.034 \cdot 10^{-6} / ^\circ\text{C}^2$ typical
frequency temperature characteristic	$f(\text{ppm}) = -0.04 (25^\circ\text{C} - T)^2$ $T = \text{requested temperature}$
operating temperature range	$-20^\circ\text{C} \sim +70^\circ\text{C}$ / $-40^\circ\text{C} \sim +85^\circ\text{C}$
shunt capacitance C_0	1.0 ~ 1.5 pF typical
series resistance max. (ESR)	50 k Ω typ. (70k Ω max.)
storage temperature	$-40^\circ\text{C} \sim +90^\circ\text{C}$
drive level max.	0.5 μW
aging first year	< ± 3 ppm

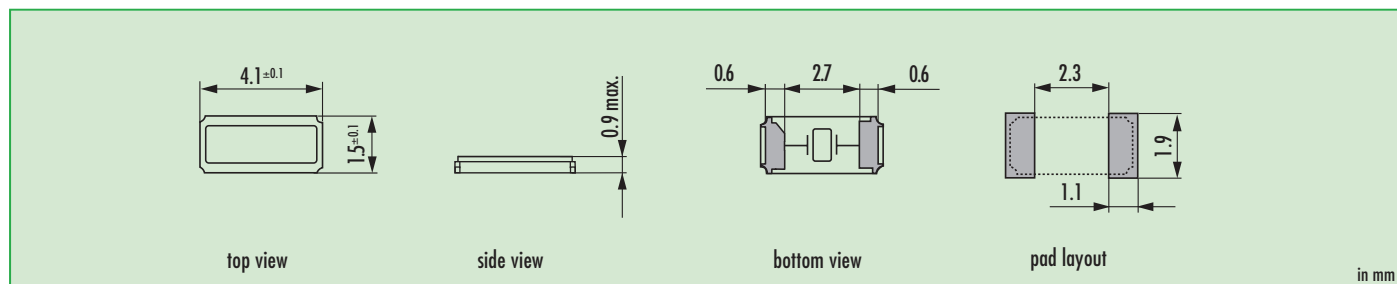
Frequency Stability vs. Temperature

		- 80 ppm	- 160 ppm	
$-20^\circ\text{C} \sim +70^\circ\text{C}$	STD.	●		
$-40^\circ\text{C} \sim +85^\circ\text{C}$	T1		●	
● standard				

Marking

company code
date code or production code

Dimensions



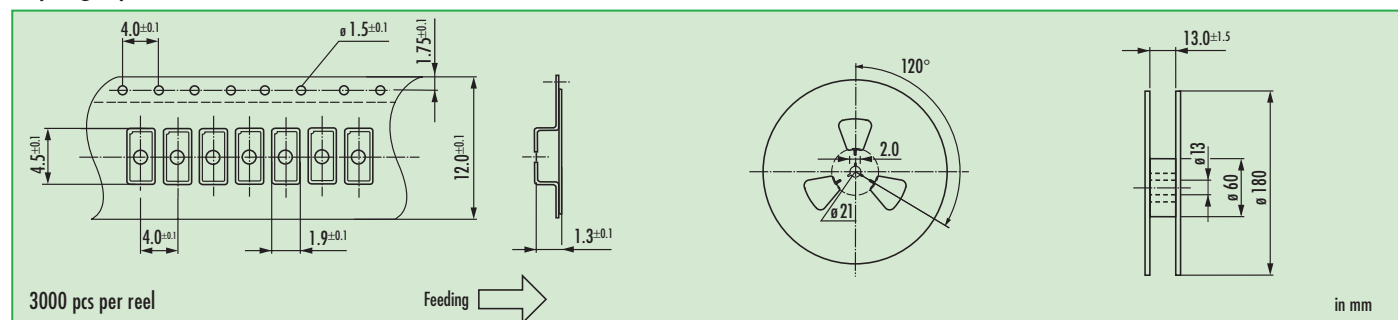
Order Information

Q	frequency	type	load capacitance	stability at 25 °C	option
Quartz	0.032768 MHz	JTX410	12.5 pF	10 = ± 10 ppm 20 = ± 20 ppm 30 = ± 30 ppm	blank = $-20^\circ\text{C} \sim +70^\circ\text{C}$ T1 = $-40^\circ\text{C} \sim +85^\circ\text{C}$

Example: Q 0.032768-JTX410-12.5-20 (Suffix LF = RoHS compliant / Pb free pads)

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Taping Specification



Reflow Soldering Profile

