



actual size

Quartz Crystal JTX410

- SMD Tuning Fork Crystal • 4.1 x 1.5 mm
- 32.768 kHz
- package height 0.9 mm max.



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA

TYPE	JTX410
frequency	32.768 kHz
frequency tolerance at 25 °C ± 5 °C	± 10 ppm / ± 20 ppm / ± 30 ppm
load capacitance C _L	12.5 pF std. (7 pF optional)
temperature constant (T _C)	T _C = -0.04 · 10 ⁻⁶ / °C ² max. T _C = -0.034 · 10 ⁻⁶ / °C ² typical
frequency temperature characteristic	$\Delta f = T_C \cdot (T_A - T_{TP})^2$ in [ppm] T _A = actual ambient temperature T _{TP} = 25 °C ± 5 °C T _{TP} = turning point temperature
operating temperature range	-20 °C ~ +70 °C / -40 °C ~ +85 °C
shunt capacitance C ₀	1.2 pF typical
series resistance max. (ESR)	80 kΩ (70 kΩ ask if available)
storage temperature	-40 °C ~ +90 °C
drive level max.	0.5 μW
aging first year	< ± 3 ppm

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

frequency stability		-80 ppm	-160 ppm
-20 °C ~ +70 °C	STD.	●	
-40 °C ~ +85 °C	T1		●

● available

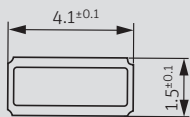
MARKING

factory code / date code / production code

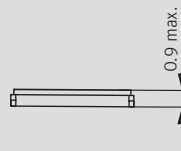
PACKING UNIT

3000 pcs per reel standard
1000 pcs per reel on request

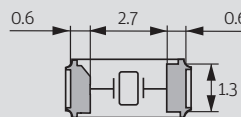
DIMENSIONS



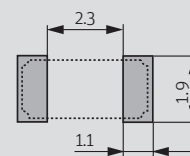
top view



side view



bottom view



pad layout

in mm

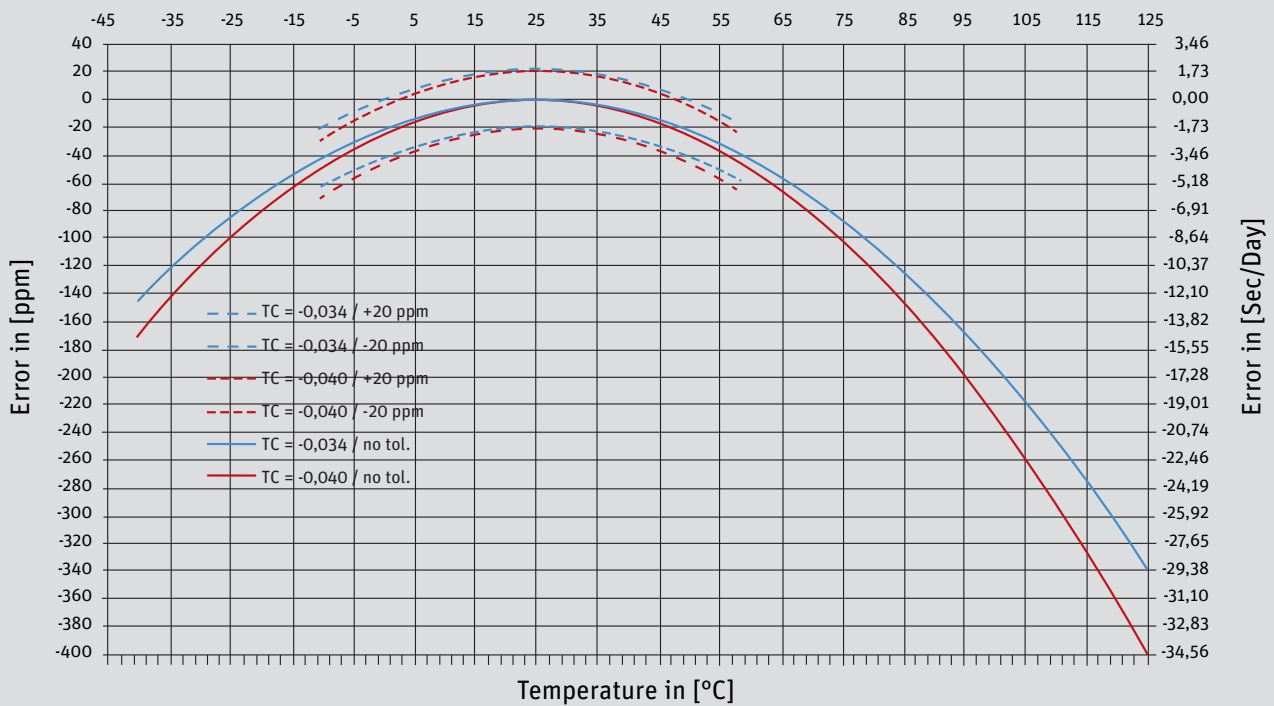
ORDER INFORMATION

Q	frequency	type	load capacitance	tolerance at 25 °C	option
Quartz	0.032768 MHz	JTX410	12.5 pF 7 pF optional	10 = ±10 ppm 20 = ±20 ppm 30 = ±30 ppm	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

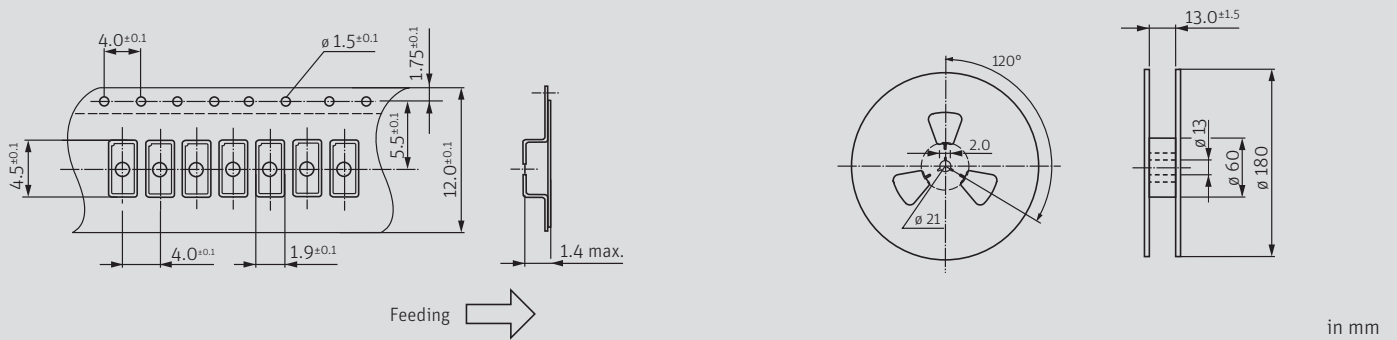
Example: Q 0.032768-JTX410-12.5-20-T1-LF (Suffix LF = RoHS compliant / Pb free)

Quartz Crystal JTX410

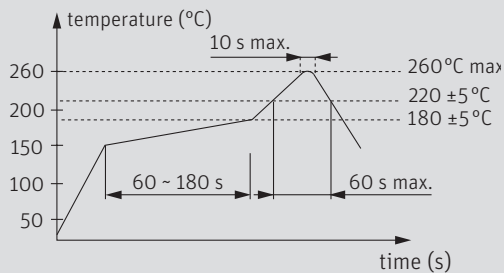
FREQUENCY ERROR VS. TEMPERATURE IN PPM OR SECONDS PER DAY



TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



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