



actual size

Quartz Crystal JTX520

- SMD Tuning Fork Crystal • 4.8 x 1.9 mm
- 32.768 kHz standard
- package height 1.0 mm max.



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA

TYPE	JTX520
frequency	32.768 kHz (30.0 ~ 100.0 kHz on request)
frequency tolerance at 25 °C ± 5 °C	± 10 ppm / ± 20 ppm / ± 30 ppm
load capacitance C_L	12.5 pF std. (7 pF ~ 10 pF on request)
temperature constant (T_C)	$T_C = -0.04 \cdot 10^{-6} / ^\circ\text{C}^2$ max. $T_C = -0.034 \cdot 10^{-6} / ^\circ\text{C}^2$ typical
frequency temperature characteristic	$\Delta f = T_C \cdot (T_A - T_{Tp})^2$ in [ppm] T_A = actual ambient temperature $T_{Tp} = 25^\circ\text{C} \pm 5^\circ\text{C}$ T_{Tp} = turning point temperature
operating temperature range	-20 °C ~ +70 °C / -40 °C ~ +85 °C
shunt capacitance C_o	1.25 pF typical
series resistance max. (ESR)	80 kΩ (70 kΩ ask if available)
storage temperature	-40 °C ~ +90 °C
drive level max.	1 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

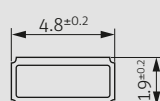
MARKING

factory code / *1 / date code / *2

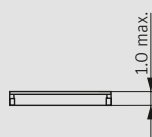
*1: frequency code (optional)

*2: production code (optional)

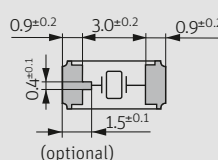
DIMENSIONS



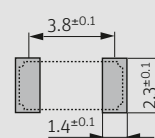
top view



side view



bottom view



pad layout

in mm

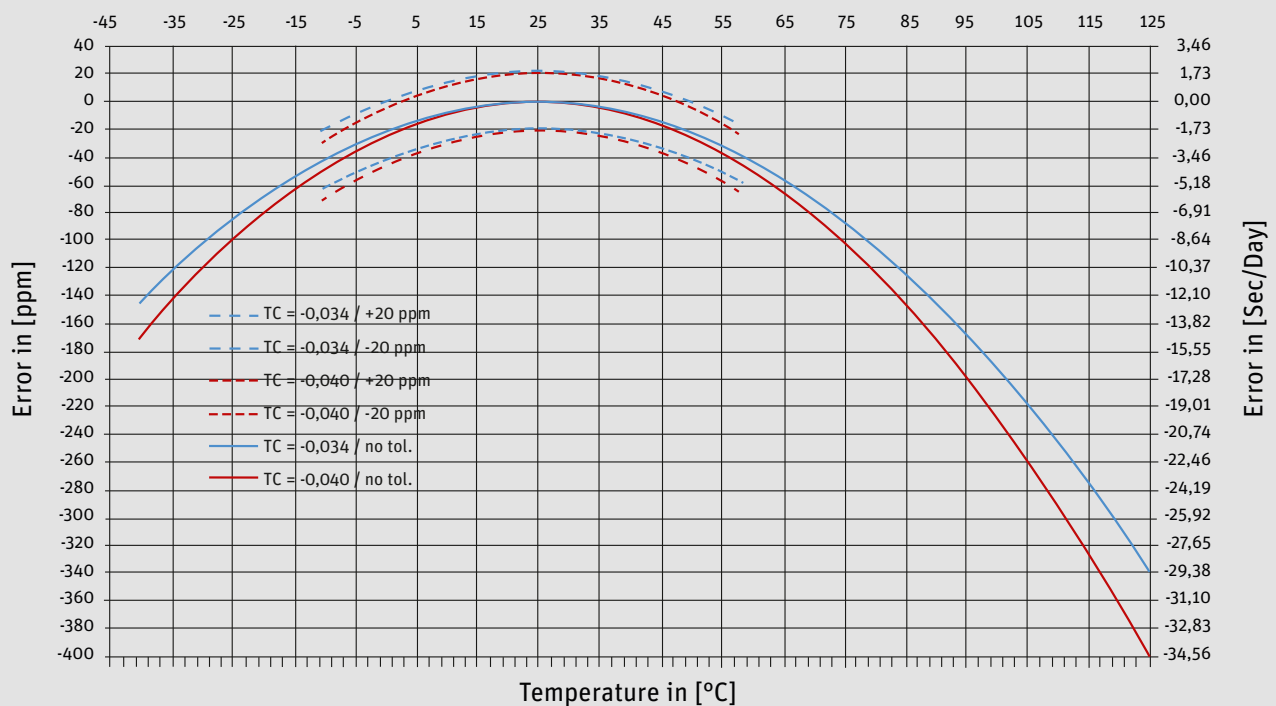
ORDER INFORMATION

Q	frequency	type	load capacitance	tolerance at 25 °C	option
Quartz	0.032768 MHz	JTX520	7 pF ~ 12 pF 12.5 pF std.	10 = ±10 ppm 20 = ±20 ppm 30 = ±30 ppm	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

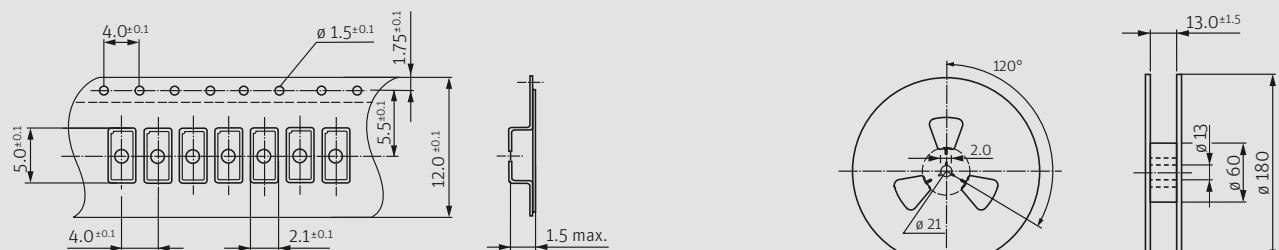
Example: Q 0.032768-JTX520-12.5-20-T1-LF (Suffix LF = RoHS compliant / Pb free)

Quartz Crystal JTX520

FREQUENCY ERROR VS. TEMPERATURE IN PPM OR SECONDS PER DAY



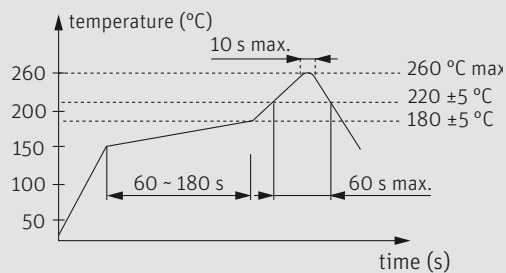
TAPING SPECIFICATION



1000 or 3000 pcs per reel

in mm

REFLOW SOLDERING PROFILE



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