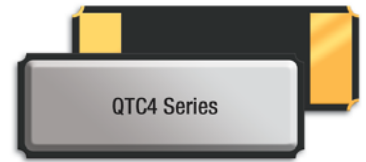


QTC4 Series

1.5x4.1 SMD Tuning Fork



Features

- Low frequency in small size SMD
- Seam sealed ceramic package offers excellent environmental & heat resistance
- Extended temperature -40 to +85°C for industrial applications

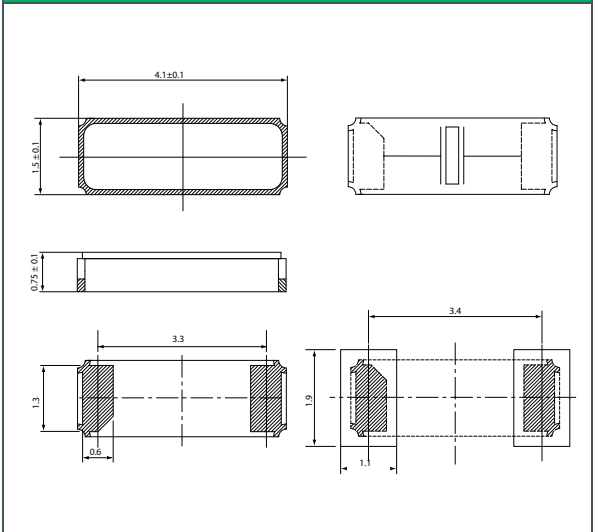
Applications

- Commercial and Industrial applications
- Wireless communications
- PDA and Smartphone
- Time of day applications

General Specifications

Nominal Frequency	32.768kHz
Frequency Tolerance at 25°C	±20ppm
Temperature Coefficient	-0.034 ± 0.008ppm/Δ °C ²
Temperature Range (Operating)	-40 to +85°C
Storage Temperature	-55 to +125°C
Load Capacitance C _L	7pF, 9pF, 12.5pF
Shunt Capacitance C ₀	1.7pF typ.
Motional Capacitance C ₁	3.0fF typ.
Equivalent Series Resistance (ESR)	65KΩ max.
Drive Level	1μW max.
Aging per Year	±3ppm max.
Insulation Resistance (MΩ)	500 at 100Vdc ±15Vdc
Quality Factor	70000 typ.
Capacitance Ratio	450 typ.

Mechanical Dimensions



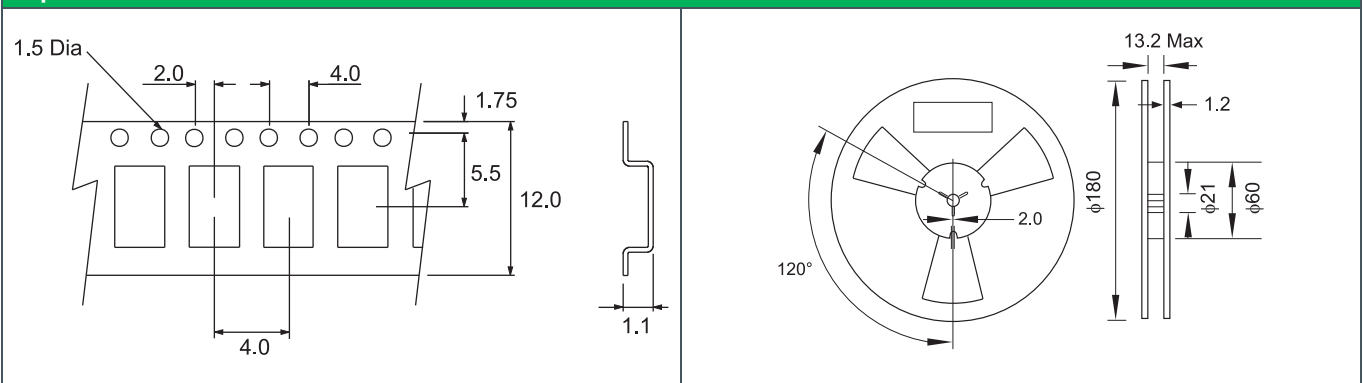
Part Numbering Guide

Qantek Code	Package	Nominal Frequency (in kHz)	Load Capacitance	Operating Temperature Range	Frequency Tolerance	Packaging
Q = Qantek	TC4 = 1.5x4.1 SMD Tuning Fork	32.768	07 = 7pF 09 = 9pF 12 = 12.5pF	B = -40 to +85°C	1 = ±10ppm 2 = ±20ppm 3 = ±30ppm	R = 3000pcs Tape&Reel

Example: QTC432.76812B2R

bold letters = recommended standard specification

Tape and Reel Dimensions



QANTEK Technology Corporation

Phone: +1 877-227-0440 (tollfree)

Fax: +1 877-227-0440 (tollfree)

www.qantek.com

info@qantek.com

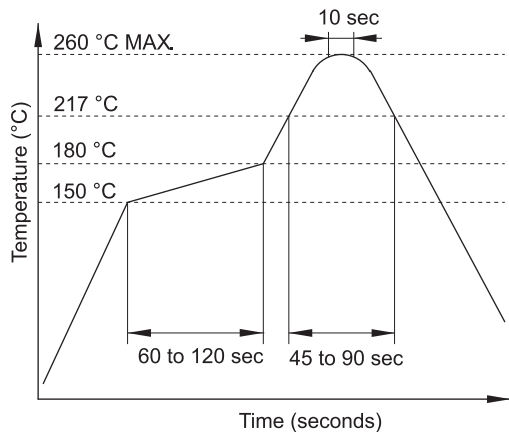
QTC4 Series

1.5x4.1 SMD Tuning Fork

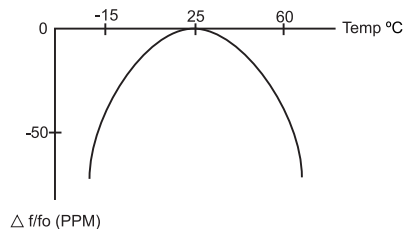
Marking Code Guide

Contains manufacturer code / lot code

Solder Reflow Profile



Frequency vs. Temperature Characteristics



To calculate the frequency stability the parabolic curvature constant (K) is needed.
For calculating the stability at 45°C?

1- Change in temperature (ΔT) is $(45-25) = +20^\circ\text{C}$

2- Change in frequency is $(-0.034 \times (\Delta^\circ\text{C})^2) = (-0.035 \times (20)^2) = -13.6\text{ppm}$



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www.qantek.com

info@qantek.com

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[QX14T50B18.43200B50TT](#) [QX8T50B1.843200B50TT](#) [QX14T50B7.372800B50TT](#) [QC5CB8.00000F18B23R](#) [QCL27.0000F18B23B](#)
[QC5A10.0000F12B12M](#) [QCL14.31818F18B23B](#) [QX14T50B4.000000B50TT](#) [QX14T50B4.096000B50TT](#) [QX14T50B24.00000B50TT](#)
[QX8T50B25.00000B50TT](#) [QX14T50B25.00000B50TT](#) [QX233A32.00000B15M](#) [QC5A12.0000F12B12M](#) [QCP914.31818F18B35R](#)
[QCS24.5760F18B23M](#) [QCS10.0000F18B23M](#) [QX8T50B8.000000B50TT](#) [QC3CA29.4912F18B23M](#) [QX8T50B20.00000B50TT](#)
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