# QCP9 Series
## 4.6x12.5 4-Pad Plastic SMD Crystal Unit

QCP9 Series

**RoHS Compliant**

### Features
- Excellent environmental and heat resistance plastic package with reflow capability
- Extended temperature -40 to +85°C for industrial applications

### Applications
- Commercial and Industrial applications
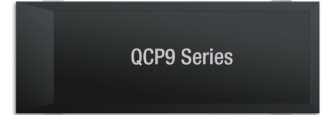
## General Specifications

| | |
|---|---|
| Frequency Range | 3.579545 to 27.000MHz (Fundamental) |
| Frequency Tolerance at 25°C | ±30 to ±50ppm (±50ppm standard) |
| Frequency Stability over Temperature Range | See Stability vs. Temperature Table |
| Storage Temperature | -55 to +125°C |
| Aging per Year | ±5ppm max. |
| Load Capacitance $C_L$ | 10 to 32pF |
| Shunt Capacitance $C_0$ | 7.0pF max. |
| Equivalent Series Resistance (ESR) | See ESR Table |
| Drive Level | 100µW typ. (500µW max) |
| Insulation Resistance (MΩ) | 500 at 100Vdc ±15Vdc |

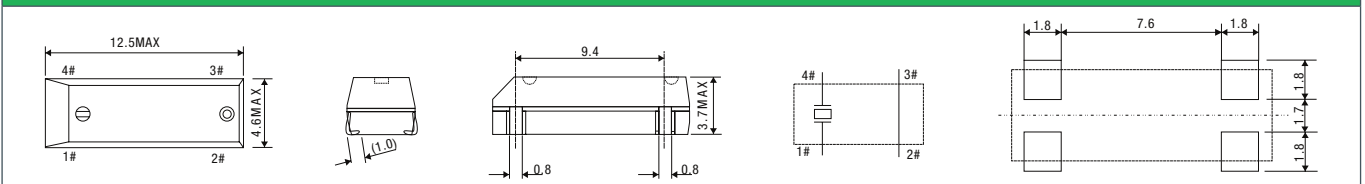## Equivalent Series Resistance (ESR)

| Frequency Range - MHz | Ω max. | Mode of Operation |
|---|---|---|
| 3.500 to 3.999 | 200 | Fundamental |
| 4.000 to 6.000 | 150 | |
| 6.100 to 9.999 | 120 | |
| 10.000 to 11.999 | 80 | |
| 12.000 to 70.000 | 70 | |

## Frequency Stability vs. Temperature

| Operating Temperature | ±30ppm | ±50ppm | ±100ppm |
|---|---|---|---|
| -20 to +70°C | ○ | ○ | ○ |
| -40 to +85°C | ○ | ● | ○ |

● standard    ○ available

## Mechanical Dimensions



## Part Numbering Guide

| Qantek Code | Package | Nominal Frequency (in MHz) | Vibration Mode | Load Capacitance | Operating Temperature Range | Frequency Tolerance | Frequency Stability | Packaging |
|---|---|---|---|---|---|---|---|---|
| Q = Qantek | CP9 = 4.6x12.5 4-Pad SMD | 7 digits including the decimal point (f.ie. 12.0000) | F = AT-Fund | 12 = 12pF 16 = 16pF **18 = 18pF** 20 = 20pF 30 = 30pF etc. | A = -20 to +70°C **B = -40 to +85°C** | 3 = ±30ppm **5 = ±50ppm** 0 = ±100ppm | 3 = ±30ppm **5 = ±50ppm** 0 = ±100ppm | R = 1000pcs Tape&Reel |

Example: QCP912.0000F12B55R

bold letters = recommended standard specification

**QANTEK**
Technology Corporation

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Phone: +1 877-227-0440 (tollfree)    www.qantek.com
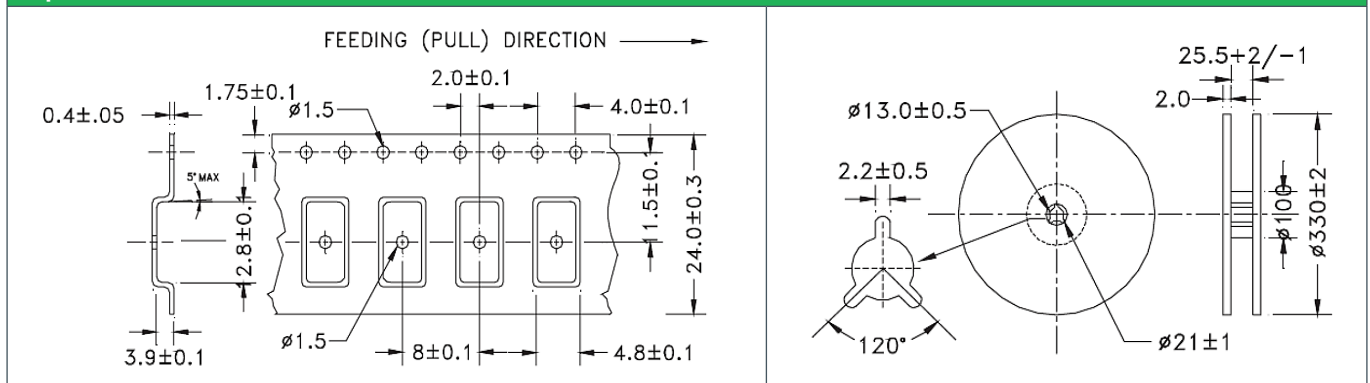Fax: +1 877-227-0440 (tollfree)    info@qantek.com

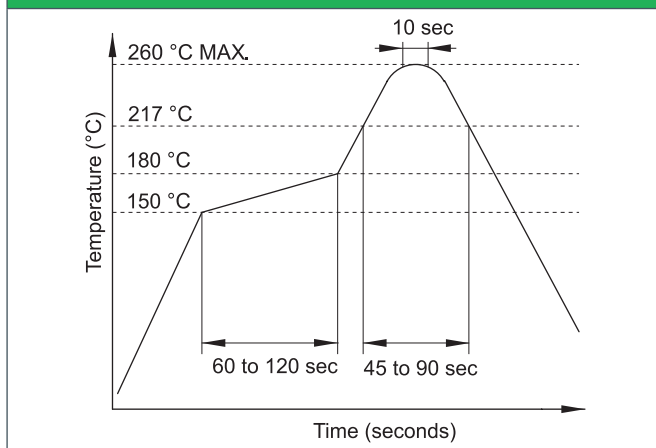# QCP9 Series
## *4.6x12.5 4-Pad Plastic SMD Crystal Unit*

## Tape and Reel Dimensions



## Marking Code Guide

Contains frequency

## Solder Reflow Profile



## Environmental Specifications

| | |
|---|---|
| Mechanical Shock | MIL-STD-202, Method 213, C |
| Vibration | MIL-STD-202, Method 201 & 204 |
| Thermal Cycle | MIL-STD, Method 1010, B |
| Gross Leak | MIL-STD-202, Method 112 |
| Fine Leak | MIL-STD-202, Method 112 |

All specifications are subject to change without notice.