

# QCP9 Series

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

### 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	3.500 to 70.000MHz	
Mode of Oscillation	Fundamental	3.500 to 36.000MHz
	Third Overtone	30.000 to 70.000MHz
Frequency Tolerance at 25°C	±30 to ±50ppm (±30ppm 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 $C_0$	5.0pF max.	
Equivalent Series Resistance (ESR)	See ESR Table	
Drive Level	100µW typ.	
Insulation Resistance (MΩ)	500 at 100Vdc ±15Vdc	

### Equivalent Series Resistance (ESR)

Frequency Range - MHz	Ω max.	Mode of Operation
3.500 to 3.999	150	Fundamental
4.000 to 4.999	120	
5.000 to 5.999	100	
6.000 to 9.999	80	
10.000 to 15.999	50	
16.000 to 19.999	40	Third Overtone
20.000 to 36.000	30	
30.000 to 35.999	100	
36.000 to 70.000	80	

### Frequency Stability vs. Temperature

Operating Temperature	±30ppm (>=6.000MHz)	±50ppm
-20 to +70°C	○	○
-40 to +85°C	○	●

● standard    ○ available

### Mechanical Dimensions

**Notes:** Pins are plated with Tin [Sn] (5~10µm). Exposed metal on top or bottom surfaces of the resin mold package do not lead into changes of electrical parameters or affect quality of the product.

### 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.i.e. 12.0000)	F = AT-Fund	12 = 12pF 16 = 16pF <b>18 = 18pF</b> 20 = 20pF 30 = 30pF etc.	A = -20 to +70°C <b>B = -40 to +85°C</b>	3 = ±30ppm <b>5 = ±50ppm</b>	3 = ±30ppm <b>5 = ±50ppm</b>	R = 1000pcs Tape&Reel

Example: QCP912.0000F12B55R

bold letters = recommended standard specification



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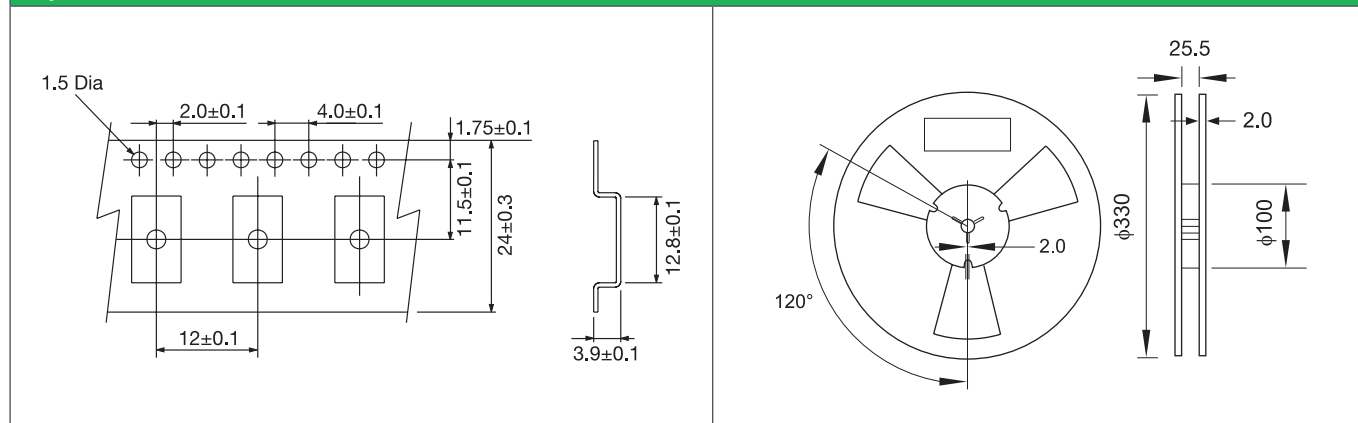
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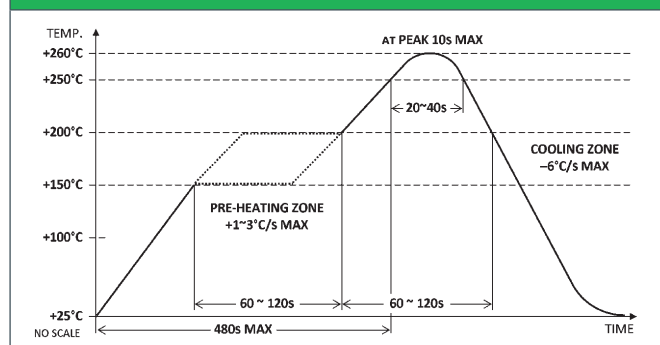
## Tape and Reel Dimensions



## 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.