

QCP9 Series

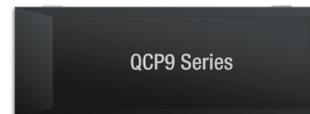
4.6x12.5 4-Pad Plastic SMD Crystal Unit

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 90.000MHz*	
Mode of Oscillation	Fundamental	3.500 to 30.000MHz
	Third Overtone	30.000 to 90.000MHz
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	

* Frequencies up to 7.3728MHz are RoHS compliant with exemption (Annex III, Exemption 7(c)-I).
Frequencies 8.000MHz and above are lead-free and fully RoHS compliant.

Equivalent Series Resistance (ESR)

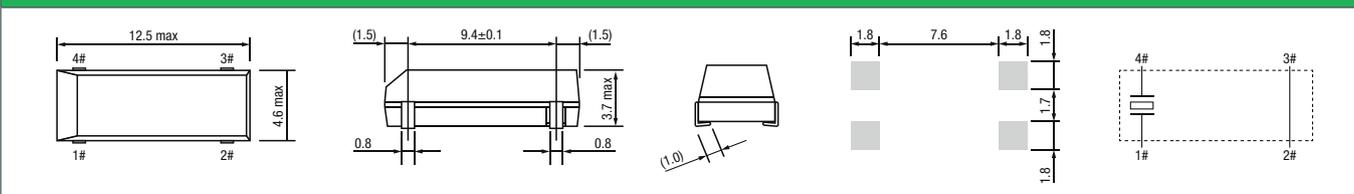
Frequency Range - MHz	Ω max.	Mode of Operation
3.500 to 3.999	200	Fundamental
4.000 to 4.999	150	
5.000 to 5.999	120	
6.000 to 9.999	100	
10.000 to 11.999	80	
12.000 to 12.999	60	
13.000 to 15.999	50	
16.000 to 19.999	40	
20.000 to 30.000	30	
30.000 to 90.000	100	

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 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



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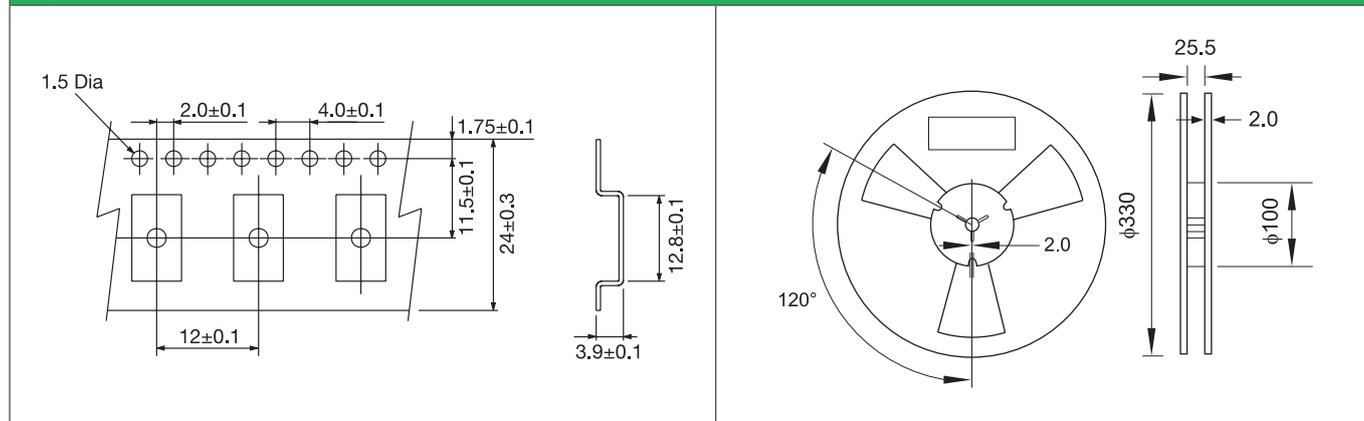
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QCP9 Series

4.6x12.5 4-Pad Plastic SMD Crystal Unit

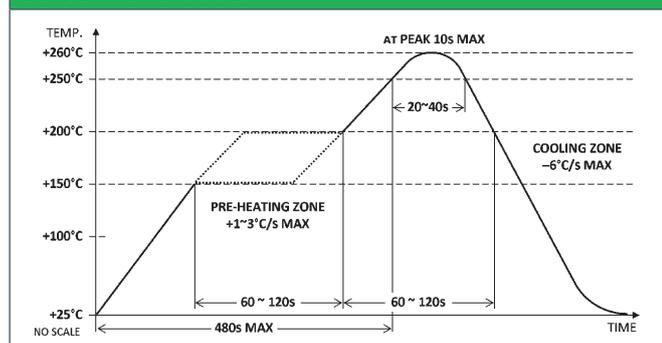
Tape and Reel Dimensions



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.