

QC3CA Series

2.5x3.2 4-Pad SMD All Ceramic Crystal Unit

Features

- All ceramic epoxy sealed SMD package
- Low in height, suitable for thin equipment
- Tight tolerance and stability available

Applications

- High density applications
- Modem, communication and test equipment

QC3CA-
Series



General Specifications

Frequency Range	12.000 to 48.000MHz (Fundamental)
Frequency Tolerance at 25°C	±20 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 and Series Resonance
Shunt Capacitance C_0	7.0pF max.
Equivalent Series Resistance (ESR)	See ESR Table
Drive Level	100μW typ. (500μW max)
Insulation Resistance ($M\Omega$)	500 at 100Vdc ±15Vdc

Equivalent Series Resistance (ESR)

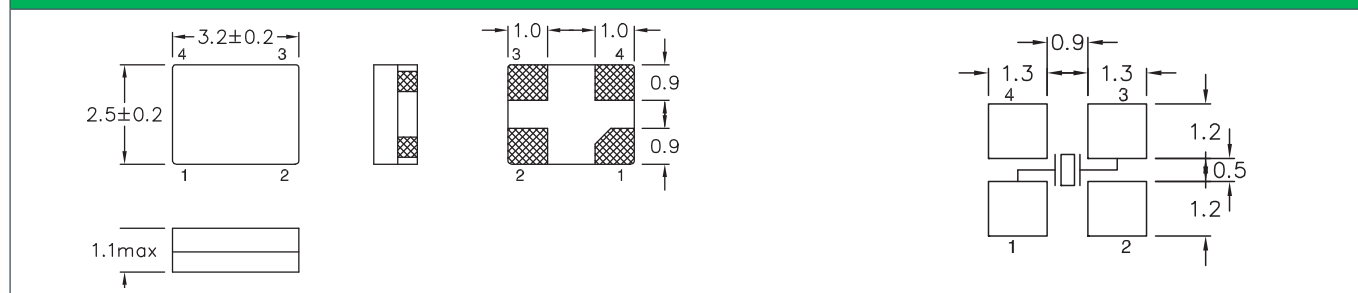
Frequency Range - MHz	Ω max.	Mode of Operation
12.000 to 16.000	120	Fundamental
16.000 to 25.000	60	Fundamental
25.000 to 30.000	50	Fundamental
30.000 to 48.000	35	Fundamental

Frequency Stability vs. Temperature

Operating Temperature	±20ppm	±30ppm	±50ppm
-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	C3CA = 2.5x3.2 4-Pad SMD	7 digits including the decimal point (f.i.e. 12.0000)	F = AT-Fund	S = Series 12 = 12pF 18 = 18pF 20 = 20pF etc.	A = -20 to +70°C B = -40 to +85°C	2 = ±20ppm 3 = ±30ppm 5 = ±50ppm	2 = ±20ppm 3 = ±30ppm 5 = ±50ppm	M = 250pcs Tape&Reel R = 1000pcs Tape&Reel

Example: QC3CA12.0000F12B33R bold letters = recommended standard specification



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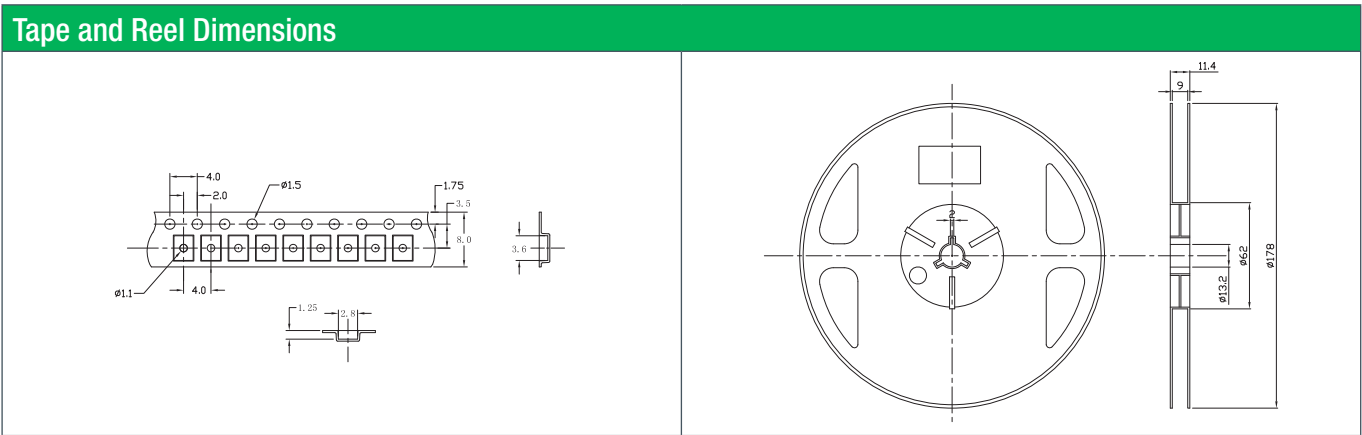
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Marking Code Guide

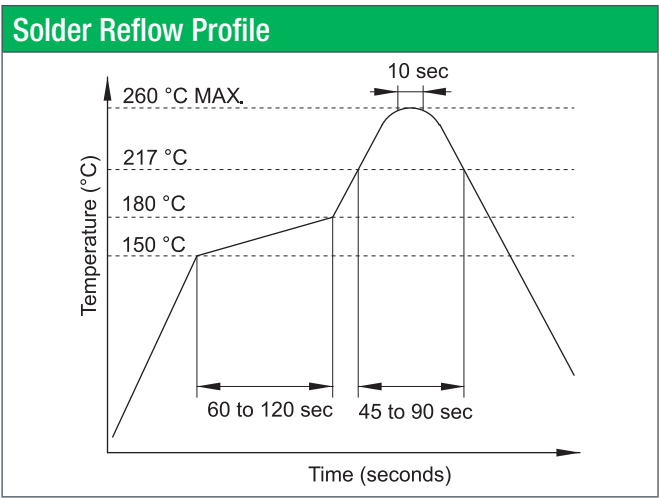
Contains frequency, Qantek manufacturing code, production code (month and year) and load capacitance.

Month Codes			
January	A	July	G
February	B	August	H
March	C	September	I
April	D	October	J
May	E	November	K
June	F	December	L

Year Codes					
2010	0	2011	1	2012	2
2013	3	2014	4	2015	5

Load Capacitance Code in pF			
pF	PN Code	pF	PN Code
12	A	20	F
18	B	22	G
8	C	30	H
10	D	32	I
16	E	S	S

Example: First Line: 12.000 (Frequency) Second Line: QA1A (Qantek - January - 2011 - 12 pF)



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.