

# QC5A Series

## 3.2x5.0 4-Pad SMD Quartz Crystal Unit

### Features

- Low in height, suitable for thin equipment
- Ceramic package and metal lid assures high reliability
- Tight tolerance and stability available

### Applications

- High density applications
- Modem, communication and test equipment
- PCMCIA, wireless applications
- Automotive applications



General Specifications		
Frequency Range		8.000 to 160.000MHz
Mode of Oscillation	Fundamental	8.000 to 52.000MHz
	Third Overtone	40.000 to 160.000MHz
Frequency Tolerance at 25°C		±10 to ±30ppm (±30ppm standard)
Frequency Stability over Temperature Range		See Stability vs. Temperature Table
Storage Temperature		-55 to +125°C
Aging per Year		±3ppm 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 max.
Insulation Resistance ( $M\Omega$ )		500 at 100Vdc ±15Vdc

Equivalent Series Resistance (ESR)		
Frequency Range - MHz	$\Omega$ max.	Mode of Operation
8.000 to 10.000	100	Fundamental
10.100 to 15.000	80	
15.100 to 25.000	50	
25.100 to 30.000	40	
30.100 to 52.000	35	
40.000 to 52.000	100	Third Overtone
52.100 to 80.000	100	
80.100 to 160.000	80	

Frequency Stability vs. Temperature					
Operating Temperature	±10ppm	±20ppm	±30ppm	±50ppm	±100ppm
-20 to +70°C	○	○	○	○	○
-40 to +85°C	○*	○	●	○	○
-40 to +105°C	-	-	-	○	○
-40 to +125°C	-	-	-	-	○
*Operating Temperature -30 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	Automotive Indicator	Packaging
Q = Qantek	C5A = 3.2x5.0 4-Pad SMD	7 digits including the decimal point (f.i.e. 12.0000)	F = AT-Fund	S = Series 08 = 8pF <b>12 = 12pF</b> 18 = 18pF 20 = 20pF etc.	A = -20 to +70°C <b>B = -40 to +85°C</b> C = -40 to +105°C D = -40 to +125°C	1 = ±10ppm 2 = ±20ppm <b>3 = ±30ppm</b> 5 = ±50ppm 0 = ±100ppm	1 = ±10ppm 2 = ±20ppm <b>3 = ±30ppm</b> 5 = ±50ppm 0 = ±100ppm	A = AEC-Q200	M = 250pcs Tape&Reel R = 1000pcs Tape&Reel
Example: QC5A12.0000F12B33R									
bold letters = recommended standard specification									



### QANTEK Technology Corporation

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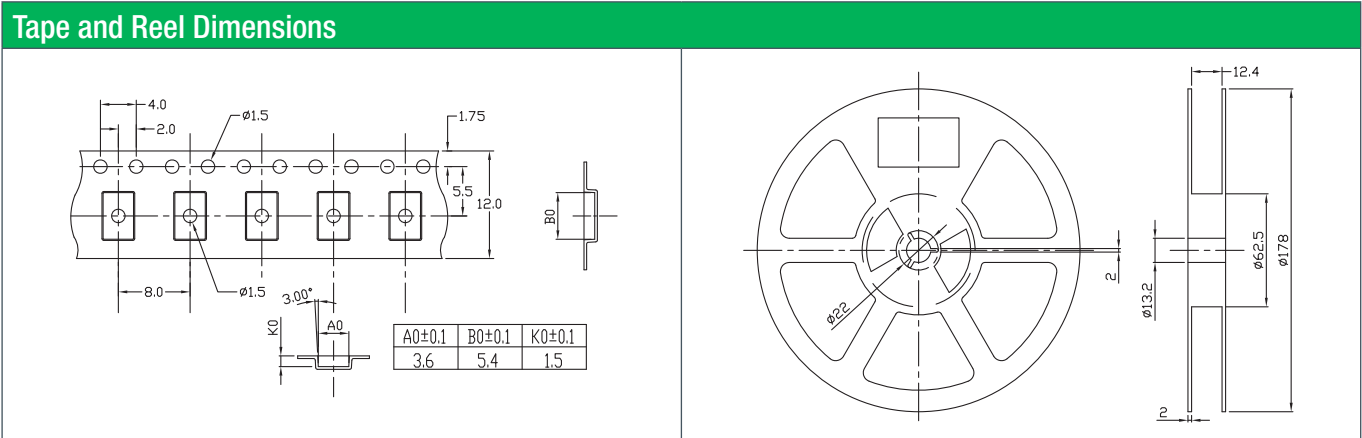
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Marking Code Guide

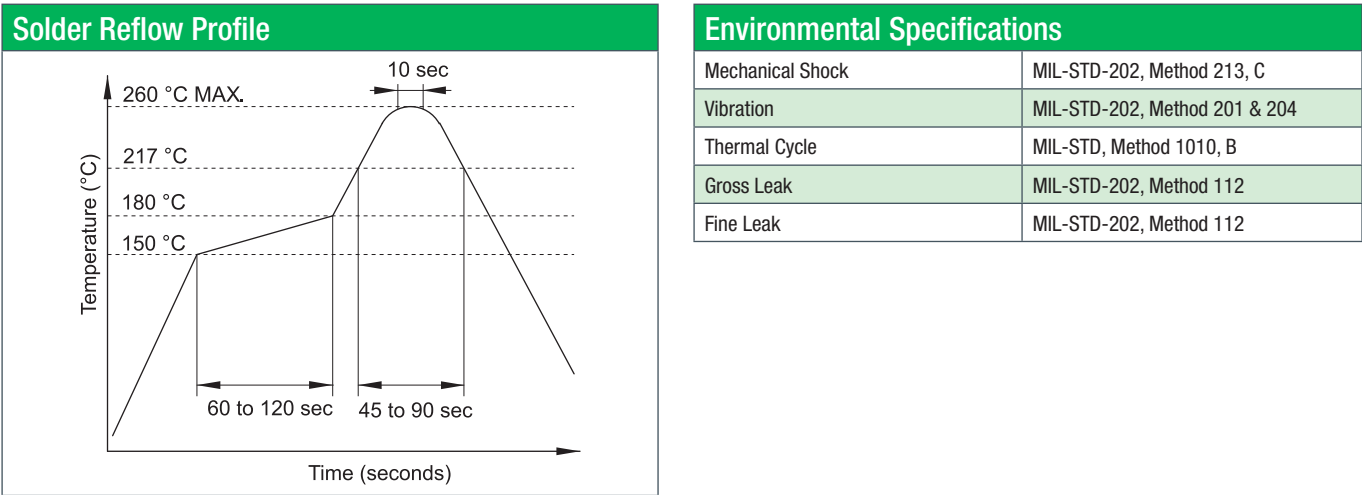
Contains frequency, Qantek manufacturing code, production code (month and year) and load capacitance.

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)



All specifications are subject to change without notice.