

# QC5A Series

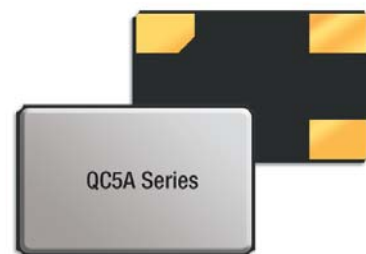
## 3.2x5.0 4-Pad SMD Quartz Crystal Unit

### 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<br>08 = 8pF<br><b>12 = 12pF</b><br>18 = 18pF<br>20 = 20pF etc. | A = -20 to +70°C<br><b>B = -40 to +85°C</b><br>C = -40 to +105°C<br>D = -40 to +125°C | 1 = ±10ppm<br>2 = ±20ppm<br><b>3 = ±30ppm</b><br>5 = ±50ppm<br>0 = ±100ppm | 1 = ±10ppm<br>2 = ±20ppm<br><b>3 = ±30ppm</b><br>5 = ±50ppm<br>0 = ±100ppm | A = AEC-Q200         | M = 250pcs Tape&Reel<br>R = 1000pcs Tape&Reel |
| Example: QC5A12.0000F12B33R                       |                         |                                                       |                |                                                                           |                                                                                       |                                                                            |                                                                            |                      |                                               |
| bold letters = recommended standard specification |                         |                                                       |                |                                                                           |                                                                                       |                                                                            |                                                                            |                      |                                               |



### QANTEK Technology Corporation

Phone: +1 877-227-0440 (tollfree)

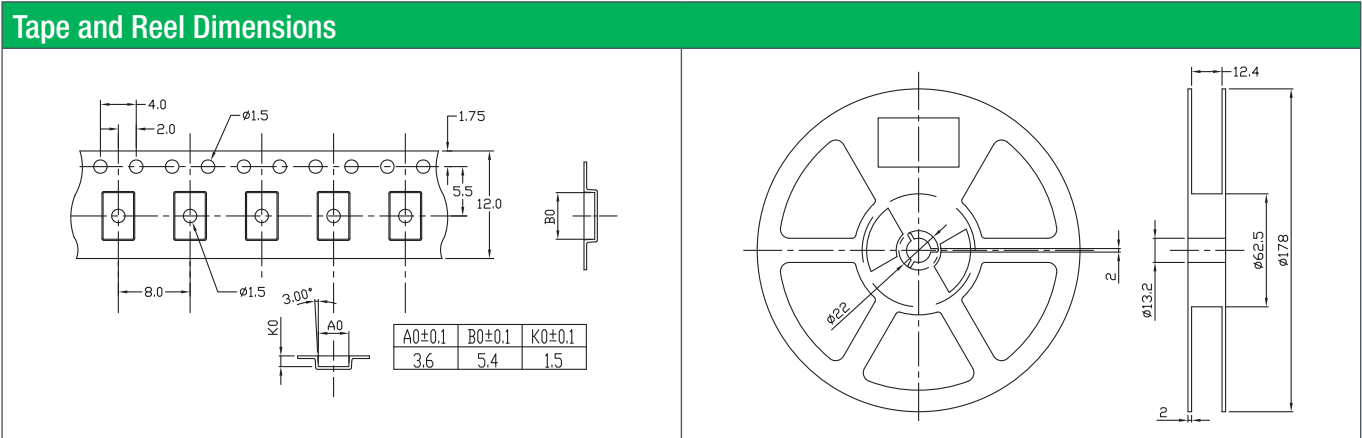
Fax: +1 877-227-0440 (tollfree)

www.qantek.com

info@qantek.com

# QC5A Series

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

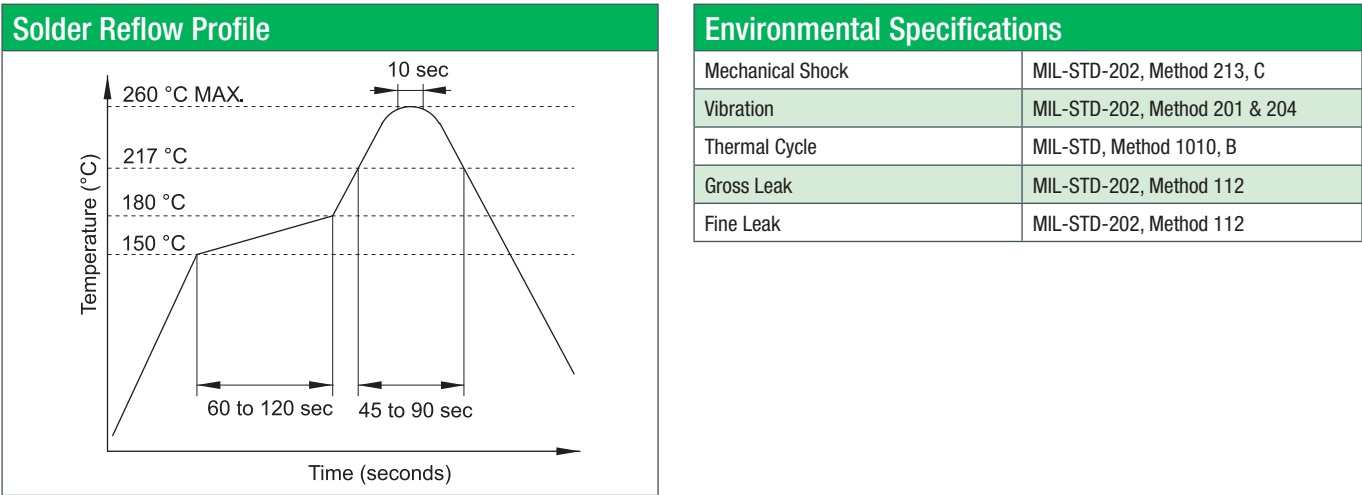


### Marking Code Guide

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

| Month Codes |   |           |   | Year Codes |   |      |   |      |   | Load Capacitance Code in pF |         |    |         |
|-------------|---|-----------|---|------------|---|------|---|------|---|-----------------------------|---------|----|---------|
| January     | A | July      | G | 2010       | 0 | 2011 | 1 | 2012 | 2 | pF                          | PN Code | pF | PN Code |
| February    | B | August    | H | 2013       | 3 | 2014 | 4 | 2015 | 5 | 12                          | A       | 20 | F       |
| March       | C | September | I |            |   |      |   |      |   | 18                          | B       | 22 | G       |
| April       | D | October   | J |            |   |      |   |      |   | 8                           | C       | 30 | H       |
| May         | E | November  | K |            |   |      |   |      |   | 10                          | D       | 32 | I       |
| June        | F | December  | L |            |   |      |   |      |   | 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.