

QC32GA Series

3.2x2.5 4-Pad SMD Quartz Crystal Unit



Features

- Low cost alternative to common seam seal packages
- RoHS compliant by exemption

Applications

- Wireless, Bluetooth
- Mobil communication
- Portable devices
- USB memory devices

General Specifications

Frequency Range	12.000 to 55.000MHz (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
Load Capacitance C_L	8 to 32pF and Series Resonance
Shunt Capacitance C_0	5.0pF max.
Equivalent Series Resistance (ESR)	See ESR Table
Drive Level	10µW TYP, 200µW max.
Insulation Resistance (MΩ)	500 at 100Vdc ±15Vdc

Equivalent Series Resistance (ESR)

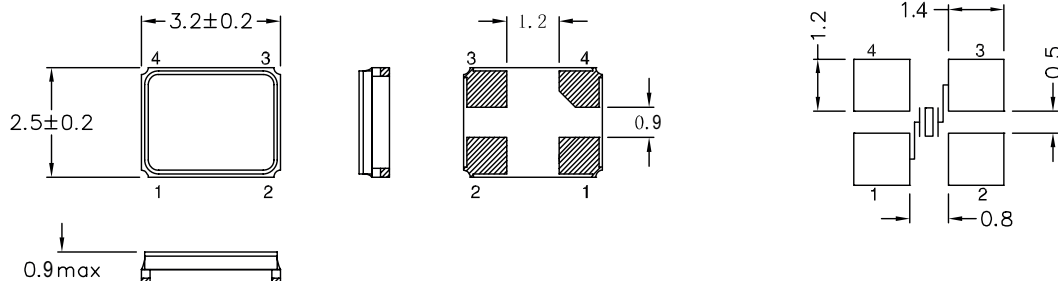
Frequency Range - MHz	Ω max.	Mode of Operation
12.000 to 14.000	150	Fundamental
14.000 to 16.000	100	
16.000 to 20.000	80	
20.000 to 55.000	60	

Frequency Stability vs. Temperature

Operating Temperature	±20ppm	±30ppm	±50ppm	±100ppm
-20 to +70°C	○	○	○	○
-40 to +85°C	○	●	○	○

● standard ○ available

Mechanical Dimensions



Pad Function: #1 Crystal, #2 N.C. or GND, #3 Crystal, #4 N.C. or GND

Part Numbering Guide

Qantek Code	Package	Nominal Frequency (in MHz)	Vibration Mode	Load Capacitance	Operating Temperature Range	Frequency Tolerance	Frequency Stability	Packaging
Q = Qantek	C32GA = 3.2x2.5 4-Pad SMD	7 digits including the decimal point (f.i.e. 12.0000)	F = AT-Fund	S = Series 08 = 8pF 12 = 12pF 18 = 18pF 20 = 20pF etc.	A = -20 to +70°C B = -40 to +85°C	2 = ±20ppm 3 = ±30ppm 5 = ±50ppm 0 = ±100ppm	2 = ±20ppm 3 = ±30ppm 5 = ±50ppm 0 = ±100ppm	M = 250pcs Tape&Reel R = 3000pcs Tape&Reel

Example: QC32GA12.0000F12B33R

bold letters = recommended standard specification



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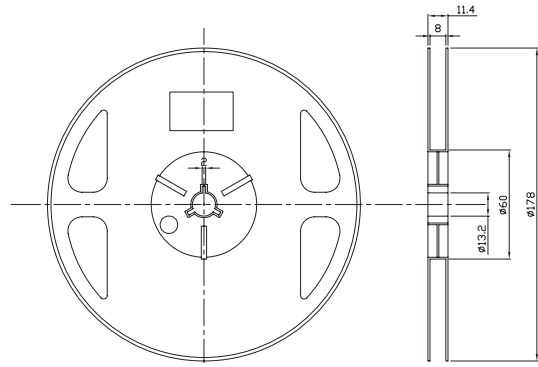
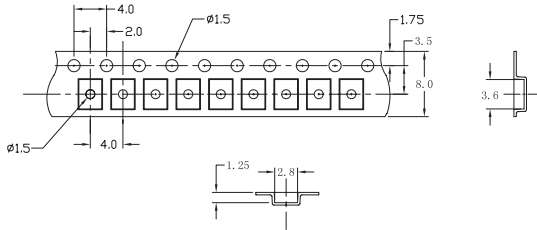
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Tape and Reel Dimensions



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

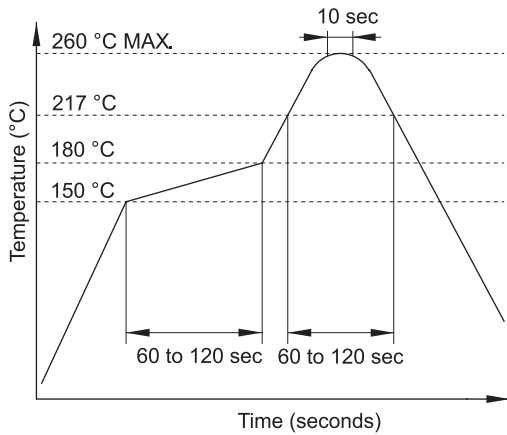
2010	0	2011	1	2012	2
2013	3	2014	4	2015	5

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)

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.



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