

QC8GB Series

4.5x8.0 2-Pad SMD Quartz Crystal Unit



Features

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

Applications

- Computer peripherals
- Set-top box, TV sets
- Office automation
- Audio & video

General Specifications

Frequency Range	10.000 to 80.000MHz	
Mode of Oscillation	Fundamental	10.000 to 50.000MHz
	Third Overtone	30.000 to 80.000MHz
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	100µW TYP, 500µW max.	
Insulation Resistance ($M\Omega$)	500 at 100Vdc ±15Vdc	

Equivalent Series Resistance (ESR)

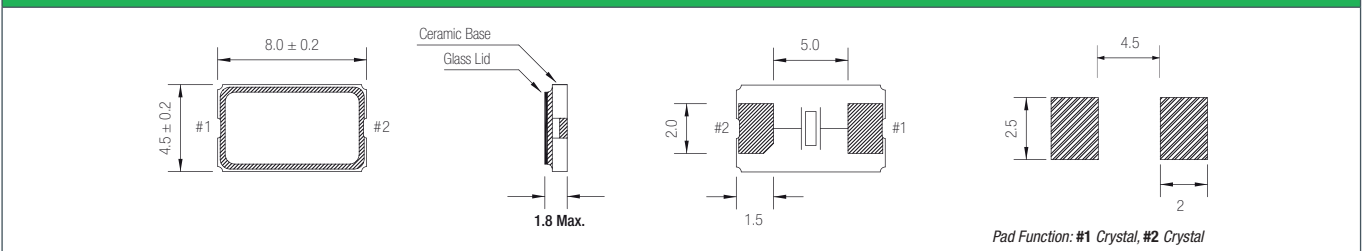
Frequency Range - MHz	Ω max.	Mode of Operation
10.000 to 12.000	100	Fundamental
12.000 to 14.000	60	
14.000 to 20.000	50	
20.000 to 50.000	40	Third Overtone
30.000 to 60.000	100	
60.000 to 80.000	80	

Frequency Stability vs. Temperature

Operating Temperature	±20ppm	±30ppm	±50ppm	±100ppm
-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	C8GB = 4.5x8.0 2-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 = 1000pcs Tape&Reel

Example: QC8GB12.0000F12B33R

bold letters = recommended standard specification



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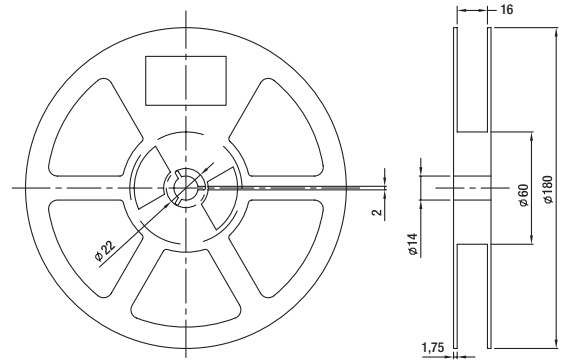
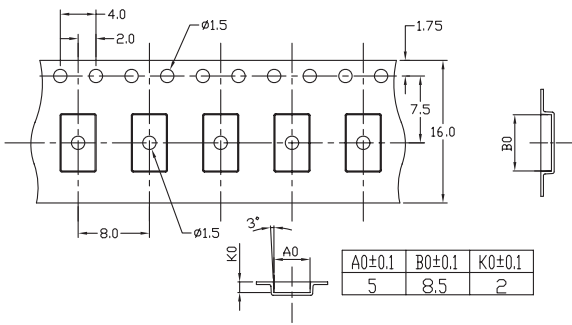
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Tape and Reel Dimensions



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

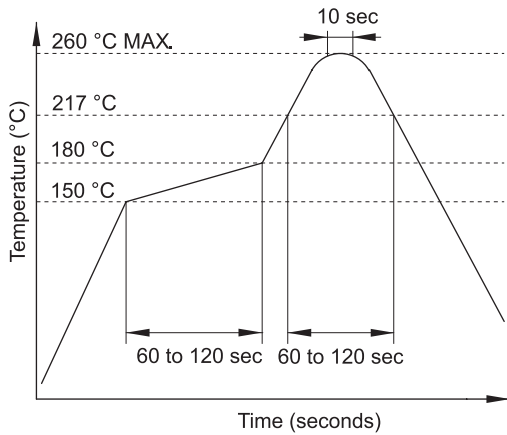
2010	0	2011	1	2012	2
2013	3	2014	4	2015	5

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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