

QC6GB Series

3.5x6.0 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	8.000 to 60.000MHz	
Mode of Oscillation	Fundamental	8.000 to 54.000MHz
	Third Overtone	40.000 to 60.000MHz
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	±3ppm	
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)

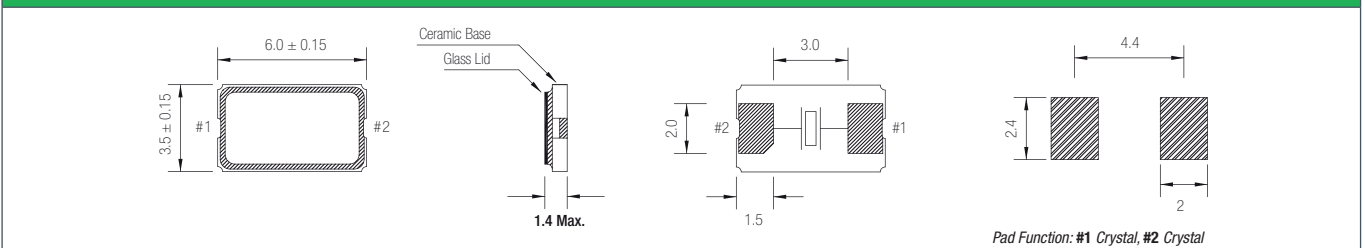
Frequency Range - MHz	Ω max.	Mode of Operation
8.000 to 10.000	80	Fundamental
10.000 to 16.000	60	
16.000 to 20.000	55	
20.000 to 54.000	50	
40.000 to 60.000	100	Third Overtone

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	C6GB = 3.5x6.0 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: QC6GB12.0000F12B33R

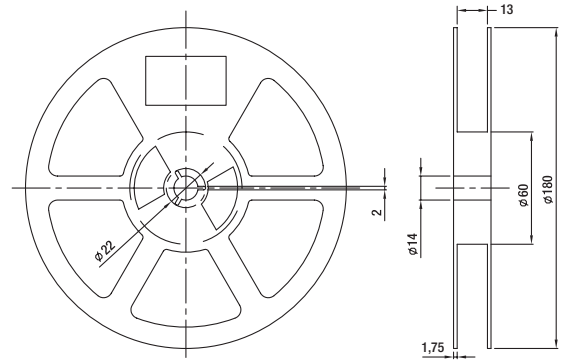
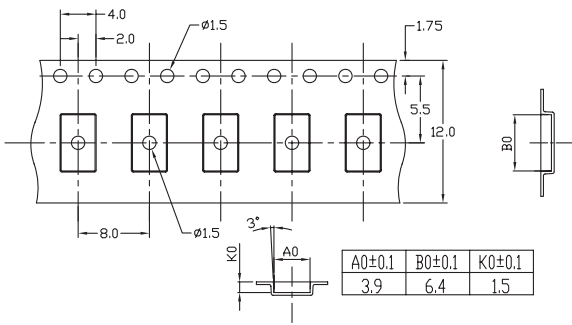
bold letters = recommended standard specification



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Tape and Reel Dimensions



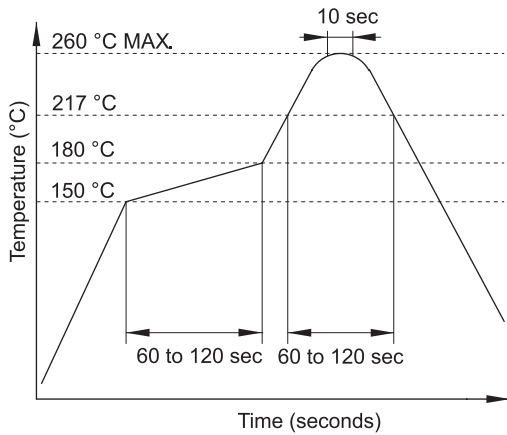
Marking Code Guide

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

Month Codes				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)

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.

