QC5GB Series

3.2x5.0 2-Pad SMD Quartz Crystal Unit

Features

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

Applications

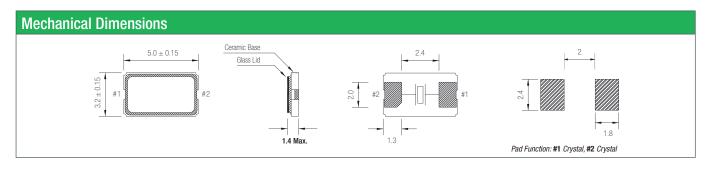
- Computer peripherals
- Set-top box, TV sets
- Office automation
- Audio & video



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		
Frenquency 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, 300μW max.		
Insulation Resistance (M Ω)		500 at 100Vdc ±15Vdc		

Equivalent Series Resistance (ESR)					
Frequency Range - MHz	Ω max.	Mode of Operation			
8.000 to 10.000	180	Fundamental			
10.000 to 16.000	150				
16.000 to 20.000	100				
20.000 to 30.000	80				
30.000 to 54.000	50				
40.000 to 60.000	120	Third Overtone			

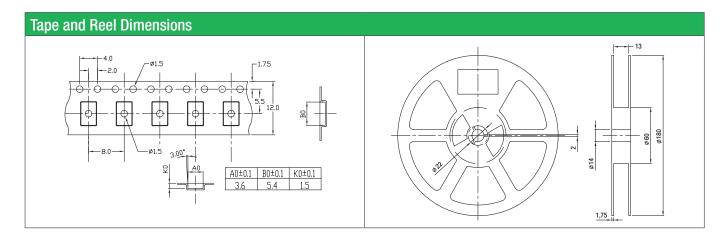
Frequency Stability vs. Temperature					
Operating Temperature	±20ppm	±30ppm	±50ppm	±100ppm	
-20 to +70°C	0	0	0	0	
-40 to +85°C	0	•	0	0	
				● standard ○ available	



Part Nur	Part Numbering Guide							
Qantek Code	Package	Nominal Frequency (in MHz)	Vibration Mode	Load Capacitance	Operating Tempe- rature Range	Frequency Tolerance	Frequency Stability	Packaging
Q = Qantek	C5GB = 3.2x5.0 2-Pad SMD	7 digits including the decimal point (f.ie. 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: QC50	Example: QC5GB12.0000F12B33R bold letters = recommended standard specification					nded standard specification		



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Marking Code Guide

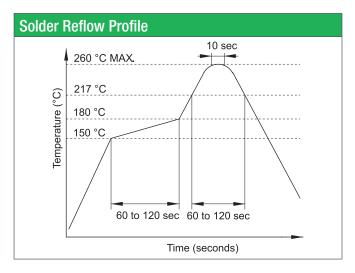
Contains frequency, Qantek manufacturing code, production code (month and year) and load capacitance.

Month Codes					
January	Α	July	G		
February	В	August	Н		
March	С	September	1		
April	D	October	J		
May	Е	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	Α	20	F		
18	В	22	G		
8	С	30	Н		
10	D	32	I		
16	Е	S	S		

Example: First Line: 12.000 (Frequency) Second Line: QA1A (Qantek - January - 2011 - 12 pF)



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		

 $\ensuremath{\mathsf{All}}$ specifications are subject to change without notice.



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