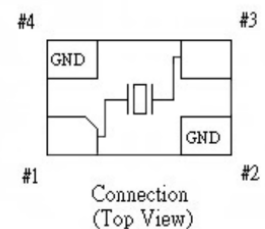
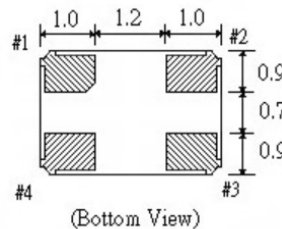
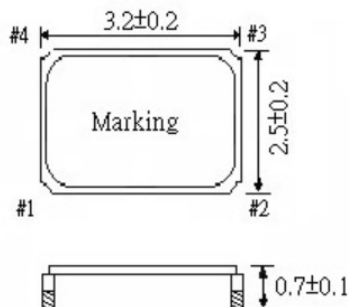


STANDARD SPECIFICATIONS

Frequency Range	8.0 MHz to 66.0 MHz (Fundamental) 60.0 MHz to 156.25 MHz (3 rd Overtone)		
Vibration Mode	AT Cut Fundamental, 3rd		
Frequency Tolerance (25°C)	± 10 ppm (see Crystal Part Number Guide for more details)		
Load Capacitance (CL)	8pF, 12pF (see Crystal Part Number Guide for more details)		
Equivalent Series Resistance (E.S.R.)	Frequency (MHz)	Mode	ESR
	8.0 ~ 9.9	Fundamental	500 Ohms Max.
	10.0 ~ 10.9	Fundamental	250 Ohms Max.
	11.0 ~ 11.9	Fundamental	150 Ohms Max.
	12.0 ~ 12.9	Fundamental	100 Ohms Max.
	13.0 ~ 15.9	Fundamental	80 Ohms Max.
	16.0 ~ 20.9	Fundamental	70 Ohms Max.
	21.0 ~ 29.9	Fundamental	60 Ohms Max.
	30.0 ~ 66.0	Fundamental	50 Ohms Max.
60.0 ~ 156.25	Fundamental	100 Ohms Max.	
Aging (First Year @ 25°C)	±2 ppm/year max, ±5 ppm/year max		
Frequency Stability over Operating Temperature	± 50 ppm Standard (see Crystal Part Number Guide for more details)		
Drive Level	200µW Max.		
Operating Temperature Range	-40°C ~+125°C (see Crystal Part Number Guide for more details)		
Storage Temperature Range	-50 °C ~+150 °C		
Ordering Instructions (see Crystal Part Number Guide for more details)			
Example: QVS Part # = QCA215-21KF8-20.000			
QCA215 -	±50ppm(@ 25°) 2	±50ppm(Over Temp) 1	-40°C~+125°C K
			Fundamental F
			Load Cap. 8pF
			Freq. -20.000MHz

See Engineering-Technical Info for Solder Re-flow and Tape and Reel Specs

Dimensions (Unit:mm)



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Specifications subject to change without notice (Rev IR)