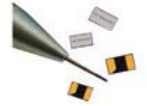


# TWC913 Series

## 1.6 x 1.0mm Watch crystal

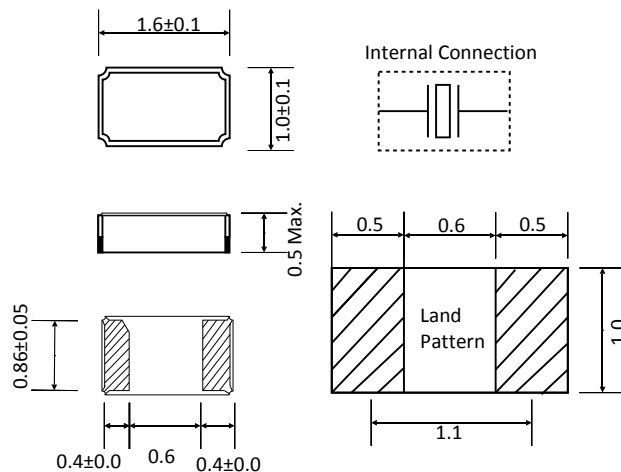


RoHS & REACH compliant  
 Vacuum sealed miniature ceramic package for excellent stability  
 Low power consumption

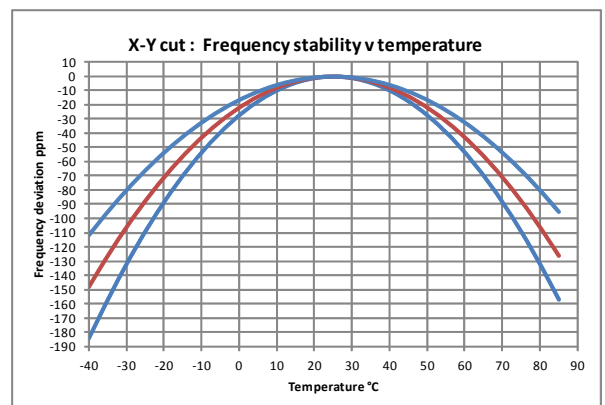


Parameters		Specification	Remarks
Frequency	F_nom	32.768kHz	
Frequency tolerance	F_tol	±10ppm, ±20ppm, ±50ppm, ±100ppm	At 25°C ± 3°C
Operating temperature range	T_use	-40°C ~ +85°C	
Storage temperature	T_stg	-55°C ~ +125°C	
Temperature coefficient	K	-0.03±0.01 ppm/°C <sup>2</sup>	
Turnover temperature	Ti	25°C ± 5°C	
Load capacitance	CL	6pF, 7pF, 9pF, 12.5pF	
Equivalent series resistance	ESR	90KΩ max	For 60KΩ max - please enquire
Motional capacitance	C1	6.5fF typical	
Shunt capacitance	C0	1.3pF typical	
Drive level	DL	0.5μW max	
Frequency aging	F_age	±5.0ppm max	First year
Insulation resistance	IR	500MΩ min	At DC100V ± 15V

### Dimensions(mm)



### Frequency stability vs temperature



### Part number generation

SAC	00003	G	I	H	D	-PF
ACT Series Code	Frequency (KHz)	Frequency Tolerance (±ppm)	Operating Temperature Range (°C)	Load capacitance (CL)	Packaging (Tape & Reel)	RoHS
SAC	32.768kHz = 00003	±10 = C ±20 = G ±50 = J ±100 = P	-40 ~ +85 = I	6.0pF = N 7.0pF = M 9.0pF = K 12.5pF = H	Loose/Sample = L 5000pcs = H	RoHS = -pF

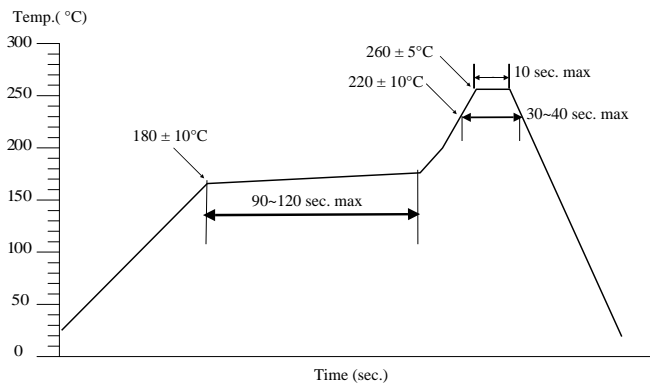
Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.  
 Full Example Part Number : SAC00003GIHD-PF (32.768MHz)

# TWC913 Series

1.6 x 1.0mm Watch crystal



## Reflow profile



## Additional information

Drawing control: (Internal use only)  
Commodity code: 854 160 00 00  
Issue number: N1  
Date: 1/02/2017  
Internal reference: R1

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