

3 x 8 Series

3.0 x 8.0mm Watch crystal



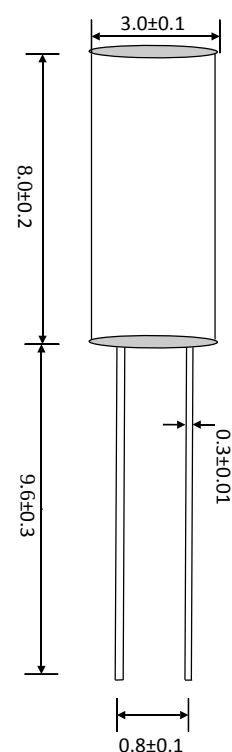
REACH and RoHS compliant
Cylinder type through hole watch crystal



Parameters	Specification	Remarks
Frequency	F_nom 32.768kHz	
Frequency tolerance	F_tol $\pm 10\text{ppm}$, $\pm 20\text{ppm}$, $\pm 50\text{ppm}$	at $25^\circ\text{C} \pm 3^\circ\text{C}$
Operating temperature range	T_use $-10^\circ\text{C} \sim +60^\circ\text{C}$, $-20^\circ\text{C} \sim +70^\circ\text{C}$, $-40^\circ\text{C} \sim +85^\circ\text{C}$	
Storage temperature	T_stg $-40^\circ\text{C} \sim +85^\circ\text{C}$	
Temperature coefficient	K $-0.035 \pm 0.0086\text{ppm}/^\circ\text{C}^2$	
Turnover temperature	Ti $25^\circ\text{C} \pm 5^\circ\text{C}$	
Load capacitance	CL 6pF $\sim 12.5\text{pF}$	
Equivalent series resistance	ESR 30K Ω max	
Motional capacitance	C1 3.0fF typical	
Shunt capacitance	C0 1.8pF typical	
Quality factor	Q 60,000	
Drive level	DL 1.0 μW max	
Frequency aging	F_age $\pm 5.0\text{ppm}$ max	First year
Insulation resistance	IR 500M Ω min	at DC100V $\pm 15\text{V}$

Part number generation						
OJ	00003	G	I	H	D	-PF
ACT Series Code	Frequency (KHz)	Frequency Tolerance ($\pm\text{ppm}$)	Operating Temperature Range ($^\circ\text{C}$)	Load capacitance (CL)	Packaging (Tape & Reel)	RoHS
OJ	32.768kHz = 00003	$\pm 10 = \text{C}$ $\pm 20 = \text{G}$ $\pm 50 = \text{N}$ $\pm 100 = \text{P}$	$-10 \sim +60 = \text{B}$ $-20 \sim +70 = \text{D}$ $-40 \sim +85 = \text{I}$	6.0pF = N 7.0pF = M 9.0pF = K 12.5pF = H	Loose = L	RoHS = -pF
Notes: 1. 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 : OJ00003GIHD-PF [32.768kHz]						

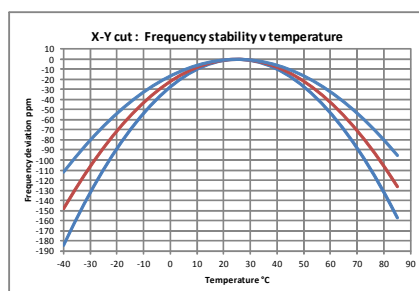
Dimensions (unit : mm)



Soldering guide

Lead should be soldered within 10 seconds with a tip temperature not exceeding 270°C . The device should be ideally be mounted upright on the PCB.

Frequency vs temperature stability



Drawing control: (Internal use only)
Commodity code : 854160 00 00
Issue number : N1
Date : 01/02/2017
Internal reference : C1b