Tel: 0044 (0)118 979 1238
Fax: 0044 (0)118 979 1283
E-mail: info@actcrystals.com

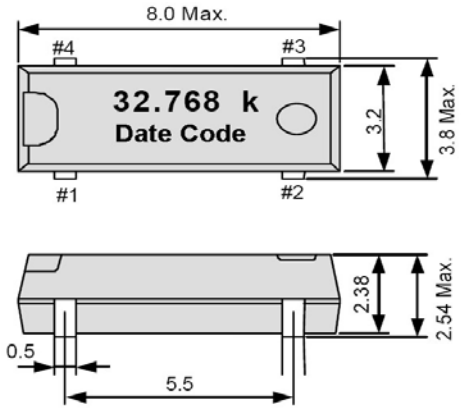
ACT200A - Prefered Product.

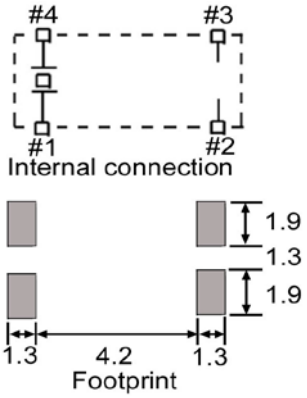
Compatible with Eu Directive 2002/95/EC - RoHS
Contains Pb>85% high melting point solder exempted from Article 4(1) of the directive

The **ACT200A** is a miniature SMD Watch Crystal with excellent low power consumption, making it ideal for portable applications. Its small footprint makes it suitable for high density circuit boards and applications where PCB space is limited. The tape and reel packaging means that it is ideal for automatic placement machines (loose product is also available).
The heart of the device is a heat resistant precision tuning fork, cylinder type, crystal which provides for good stability characteristics, sufficient to allow reflow soldering.
Applications include: Clock, Sub Clock, Small Communications Devices, Microcomputer etc.

Specification

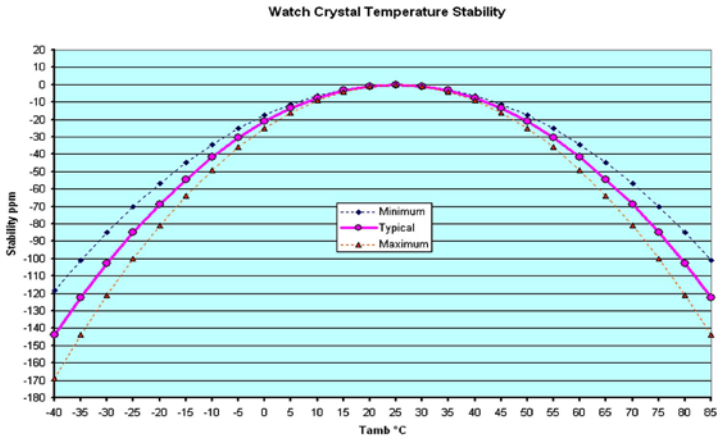
Parameter	Symbol	Specification	Condition
Nominal Frequency	fo	32.768KHz	
Frequency Tolerance	Δf/fo	±20ppm (±5ppm option)	@25°C
Frequency v Temp Characteristics	Δf/fo	See drawing	-10 ~ +60°C
Turnover Temperature	Tm	25°C ±5°C	
Freq. Temp. coefficient	β	-0.04 ppm/°C²	
Temp Operating Range	Topr	-40 ~ +85°C	
Temp Storage Range	Tstg	-55 ~ +125°C	
Equivalent Series Resistance	ESR	50KΩ max	@25°C
Shunt Capacitance	Co	0.9pF Typical	
Load Capacitance	CL	12.5pF & 6.0pF	Please specify
Motional Capacitance	C1	1.8fF Typical	
Capacitance Ratio	γ	450 Typical	
Drive Level	DL	1μW max	
Insulation Resistance	IR	500MΩ min	@ DC 100V ±15V
Aging (first year)	Fa	±3ppm max	25°C ±3°C





Do not connect ~2 and ~3 to external device.

Metal may be exposed on the top or bottom surface of this product. This will not effect any quality, reliability or electrical specifications.



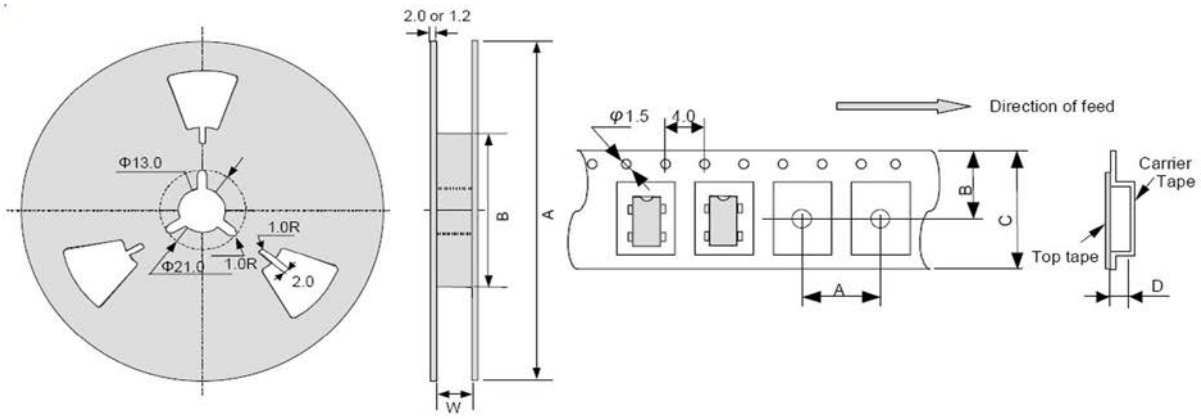
Please note that all parameters can not necessarily be specified in the same device
Customer to specify: Load Capacitance
In line with our ongoing policy of product evolvement and improvement, the above specification may be subject to change without notice
ISO9001:2000 Registered
For quotations or further information please contact us at:
3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK
http://www.actcrystals.com

Issue 3 E2
Date 31-05-2012

Tel : 0044 (0)118 979 1238
Fax : 0044 (0)118 979 1283
email : info@actcrystals.com

ACT200A

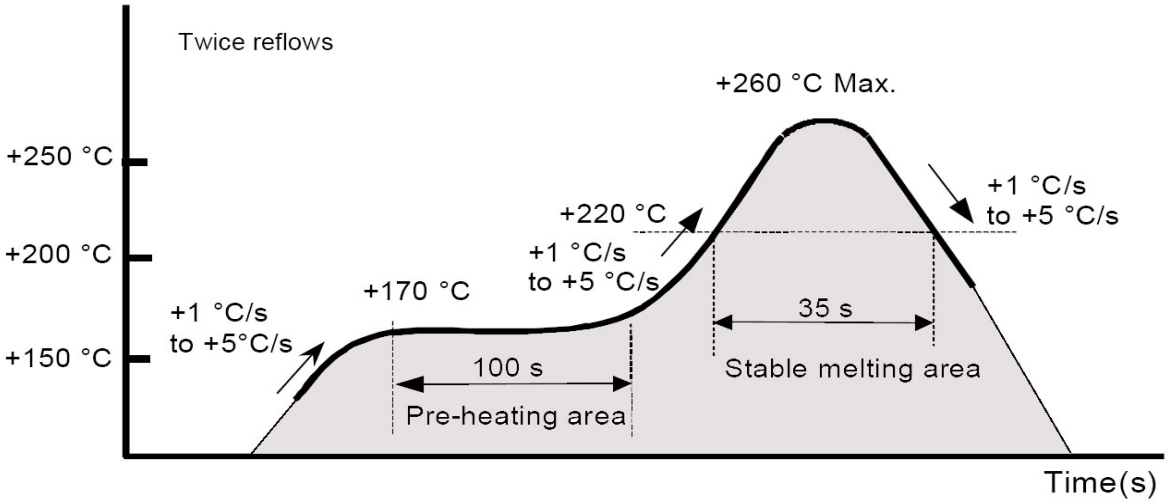
Tape and Reel specification **Standard reel quantity 3000 pieces per reel**



DIMENSIONS (mm)						
REEL			TAPE			
AØ	BØ	W	A	B	C	D
330	80 OR 100	17.5	8	9.25	16	2.7

SOLDERING of SMD WATCH CRYSTALS

Reflow oven should be set up to emulate or better the maximum reflow profile shown in the diagram below. Note it is just as important to conform to the times given as well as the temperatures.

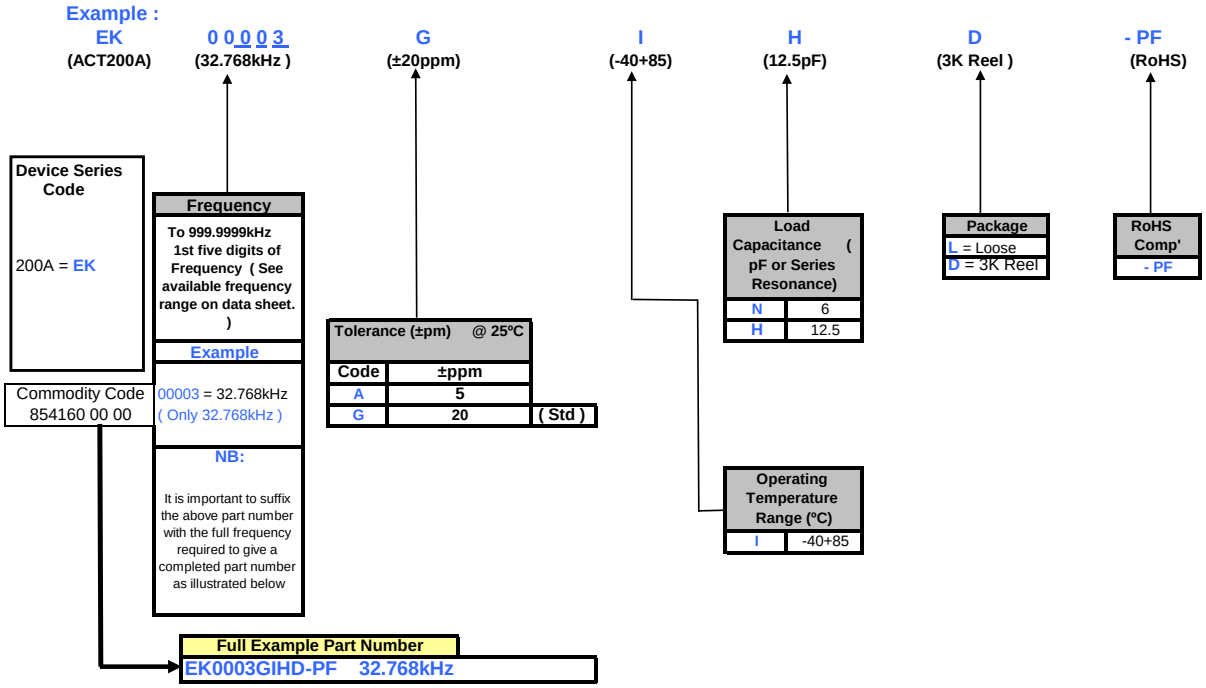


In line with our ongoing policy of product evolvement and improvement, the above specification may be subject to change without notice
ISO9001:2000 Registered
For quotations or further information please contact us at:
3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK
http://www.actcrystals.com

Issue 3 E2
Date 31-05-2012

Tel : 0044 (0) 118 979 1238
Fax : 0044 (0) 118 979 1283
email : info@actcrystals.com

ACT WATCH CRYSTALS (32.768kHz) - PART NUMBERING & COMMODITY CODE



NOTES :

1) **Other Tolerances, CL's and other Operating Temperature Ranges may be available.**

2) **ACT are always happy to consider truly custom specification parts which may require non-standard specification parameters, specific testing, customer requested AQL requirements, non standard packaging or taping and reeling and custom marking. (MOQ DEPENDENT) Such devices would normally be allocated a custom specification (An ACT200A device may have a part number such as EK00003C- C1101-PF)**

3) **Stability Over Operating Temperature (ºC) please refer to the data.**