

ACT200A - Preferred Product.

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.

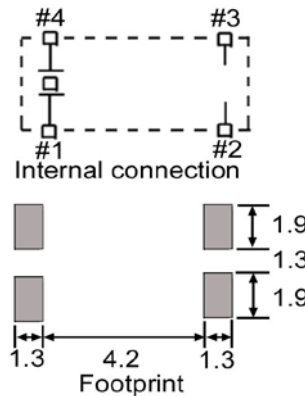
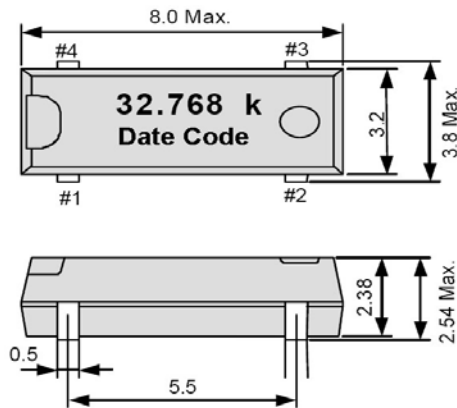
Applications include: Clock, Sub Clock, Small Communications Devices, Microcomputer etc.

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



Specification

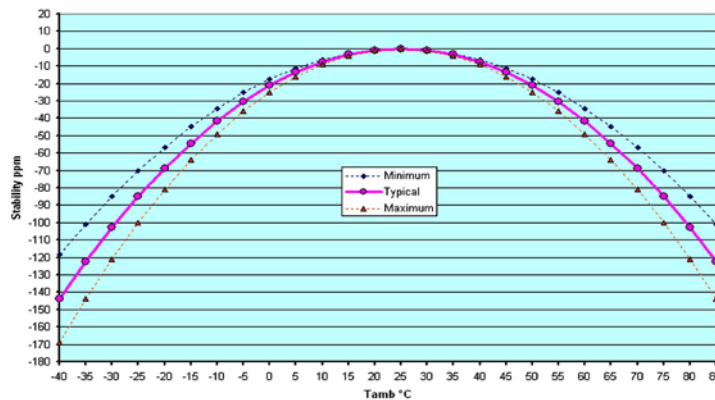
Parameter	Symbol	Specification	Condition
Nominal Frequency	f_0	32.768KHz	
Frequency Tolerance	$\Delta f/f_0$	± 20 ppm (± 5 ppm option)	@25°C
Frequency v Temp Characteristics	$\Delta f/f_0$	See drawing	-10 ~ +60°C
Turnover Temperature	T_m	25°C ± 5 °C	
Freq. Temp. coefficient	β	-0.04 ppm/°C ²	
Temp Operating Range	T_{opr}	-40 ~ +85°C	
Temp Storage Range	T_{stg}	-55 ~ +125°C	
Equivalent Series Resistance	ESR	50K Ω max	@25°C
Shunt Capacitance	C_0	0.9pF Typical	
Load Capacitance	CL	12.5pF & 6.0pF	Please specify
Motional Capacitance	C_1	1.8fF Typical	
Capacitance Ratio	γ	450 Typical	
Drive Level	DL	1 μ W max	
Insulation Resistance	IR	500M Ω min	@ DC 100V ± 15 V
Aging (first year)	Fa	± 3 ppm 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.

Watch Crystal Temperature Stability



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 evolution and improvement, the above specification may be subject to change without notice

ISO9001:2000 Registered

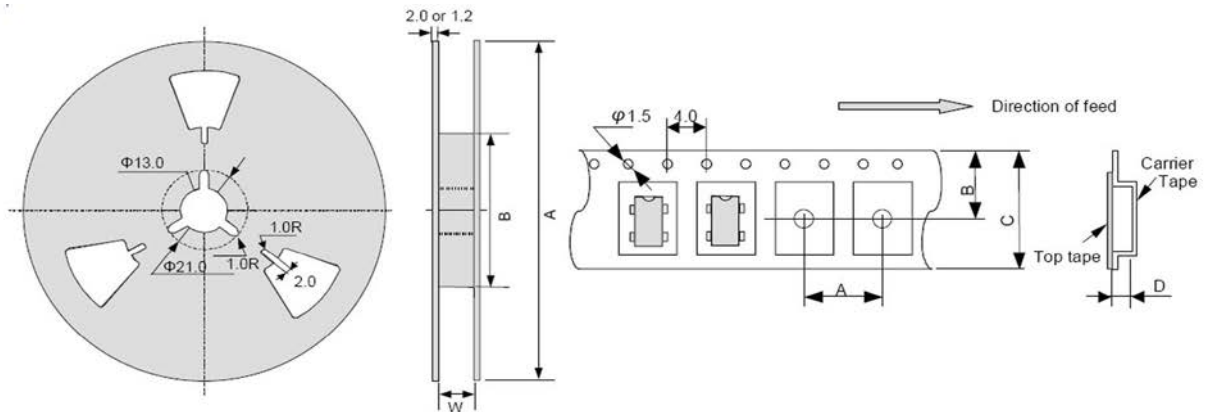
For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

<http://www.actcrystals.com>

ACT200A

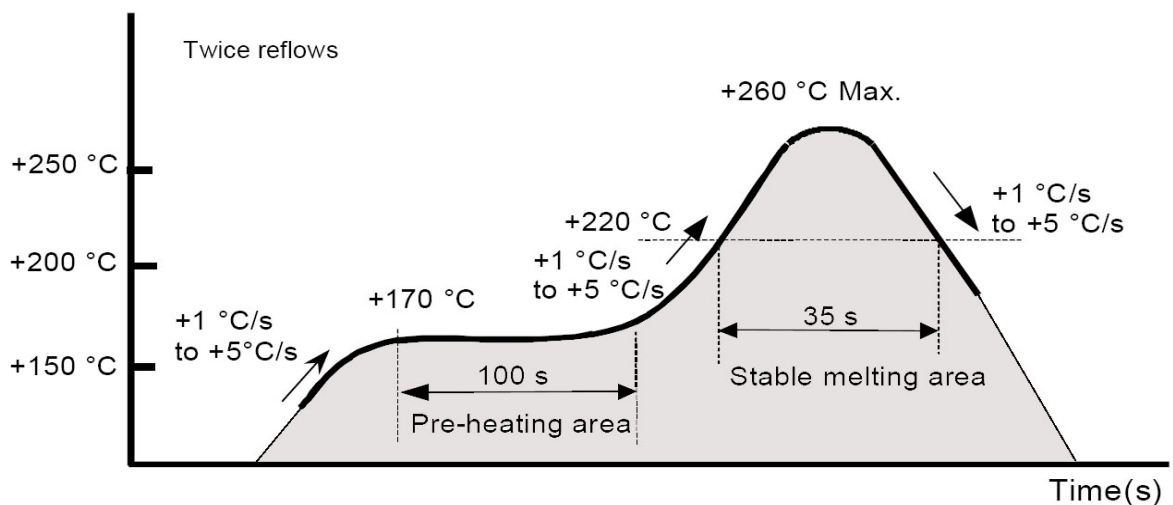
Tape and Reel specification Standard reel quantity 3000 pieces per reel



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.



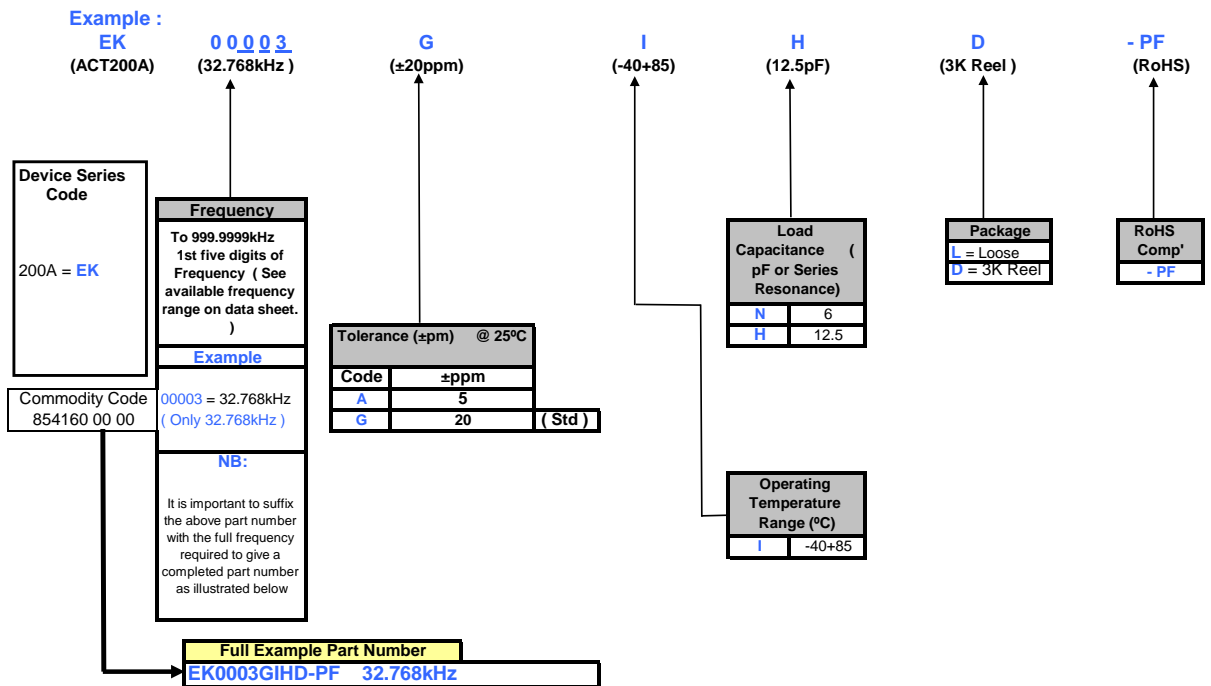
In line with our ongoing policy of product evolution and improvement, the above specification may be subject to change without notice

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>

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 (°C) please refer to the data.

ISO9001 Registered

For quotations or further information please contact us at:
 3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, United Kingdom
<http://www.actcrystals.com>