



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# LOW FREQUENCY CYLINDRICAL WATCH CRYSTAL

AB38T

AB38T



RoHS  
Compliant

8.3 x ø3.2mm

## FEATURES:

- Commercial grade 32.768kHz crystal

## APPLICATIONS:

- Real time clock
- Measuring instruments.
- Clock source for communication or A/V equipment.

## STANDARD SPECIFICATIONS:

| Parameters                        | Minimum | Typical | Maximum | Units              | Notes             |
|-----------------------------------|---------|---------|---------|--------------------|-------------------|
| Center Frequency                  | -----   | 32.768  | -----   | kHz                |                   |
| Operating Temperature             | -10     | -----   | +60     | °C                 | See options       |
| Turnover Temperature              | +20     | +25     | +30     | °C                 |                   |
| Storage Temperature               | -40     | -----   | +85     | °C                 |                   |
| Frequency Tolerance @+25°C        | -20     | -----   | +20     | ppm                | See options       |
| Frequency Coefficient (β)         | -0.040  | -0.034  | -0.028  | ppm/T <sup>2</sup> |                   |
| Equivalent series resistance (R1) | -----   | -----   | 30      | kΩ                 |                   |
| Shunt capacitance (C0)            | -----   | 1.60    | -----   | pF                 |                   |
| Motional capacitance (C1)         | -----   | 0.0035  | -----   | pF                 |                   |
| Capacitance ratio (C0/C1)         | -----   | 460     | -----   | -----              |                   |
| Load capacitance (CL)             | -----   | 12.5    | -----   | pF                 | See options       |
| Drive Level                       | -----   | -----   | 1       | μW                 |                   |
| Quality Factor                    | -----   | 90,000  | -----   |                    |                   |
| Aging @25°C±3°C (First year)      | -3      | -----   | +3      | ppm                | 32.768kHz         |
|                                   | -5      | -----   | +5      |                    | Other frequencies |
| Insulation Resistance             | 500     | -----   | -----   | MΩ                 | @ 100Vdc ± 15V    |

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

AB38T-32.768kHz -  -  -

### Load Capacitance (pF)

Blank: 12.5pF  
Please specify custom load cap. in pF (ex. 6 for 6pF)

### Operating Temperature

E: 0 to +70 °C  
B: -20 to +70 °C

### Freq. Tolerance

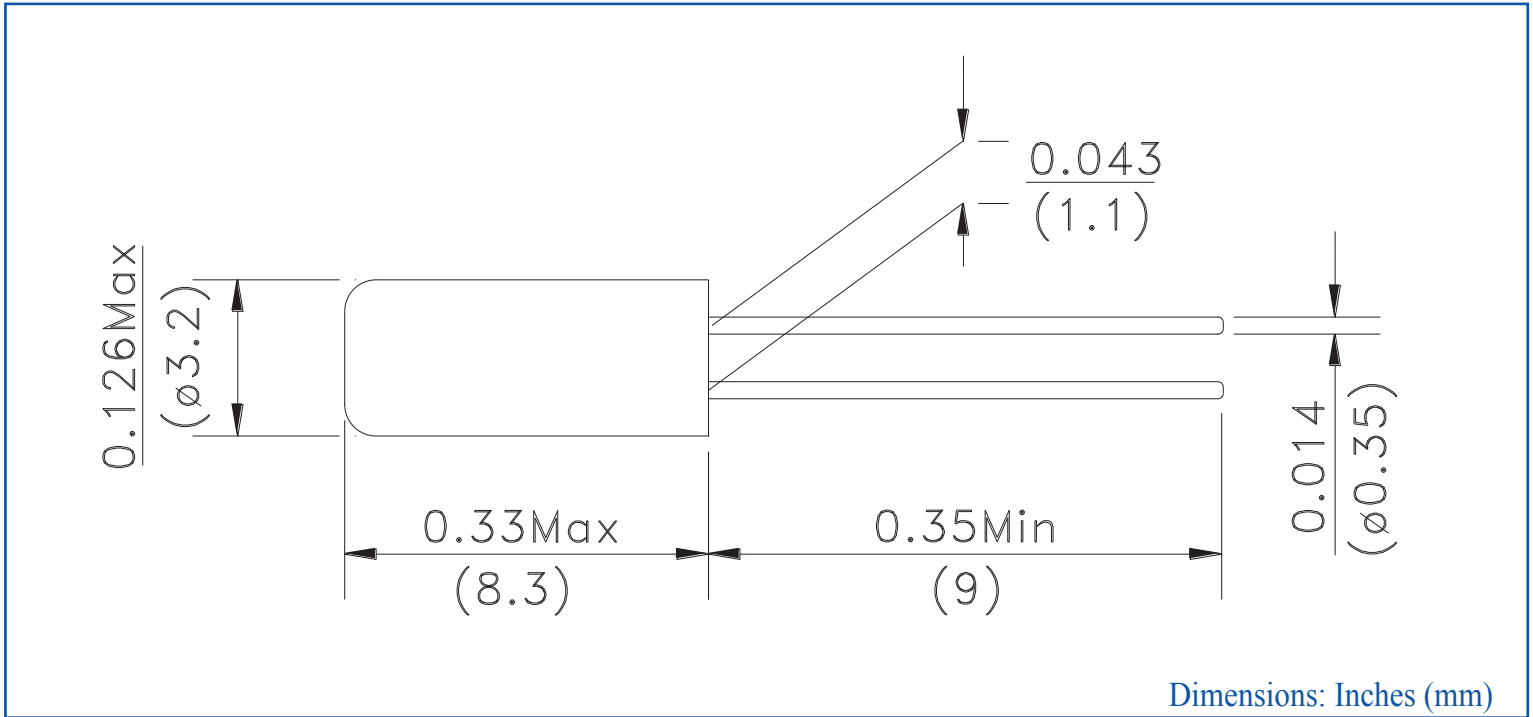
1: ± 10 ppm \*  
7: ± 15 ppm

\* Please contact Abracon for availability





## OUTLINE DRAWING:



### Soldering

- (1) Do not apply excessive soldering heat – Recommended Maximum Temperature is 380°C using a hand soldering iron for a Maximum Duration of 3 seconds.
- (2) When dip soldering/wave soldering, the soldering condition is to be 260°C Maximum Temperature for a Maximum Duration of 10seconds. Beware not to heat the whole crystal unit in the dip mounting process. It is recommended that the crystal be mounted in an upright position. (To prevent heat conduction directly to the body of a crystal unit.)
- (3) When soldering, do not apply the heat to the case body of the component as exposure to soldering heat would deteriorate the performance of the product.

**Packaging:** 1,000pcs/bag, 10,000pcs/box

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