

# **Engineering/Process Change Notice**

ECN/PCN No.: 3818

|   | For Mai                        | nufacturer                           |  |                          |
|---|--------------------------------|--------------------------------------|--|--------------------------|
| Product Description:<br>32.768kHz SMD Crystal | <b>Abracon Part Numb</b><br>AB | er / Part Series:<br>S10             | <ul><li>□ Documentation only</li><li>□ ECN</li><li>⋈ EOL</li></ul> | Series     □ Part Number |
| Affected Revision:                            | New Revision:                  | OL                                   | Application:   | ☐ Safety<br>☑ Non-Safety |
| Prior to Change:<br>ABS10 Rev. K              |                                |                                      |  |                          |
| After Change:                                 |                                |                                      |  |                          |
| EOL   |                                |                                      |  |                          |
| Cause/Reason for Change:                      |                                |                                      |  |                          |
| Discontinuation of this older product p       |                                |                                      | ring capability.   |                          |
|   |                                | ge Plan                              |  |                          |
| Effective Date: 05/7/2021                     | Additional Remarks             | onal Remarks:                        |  |                          |
| Change Declaration:                           |                                |                                      |  |                          |
| <b>Issued Date:</b> 05/7/2021                 | <b>Issued By:</b> Stephan      | ie Lopez                             | Issued Department: Engineering                                     |                          |
| Approval:                                     | Approval:                      |                                      | Approval:  |                          |
| Thomas Culhane Engineering Director           | <i>Reuben Q</i><br>Quality     | <i>uintanilla</i><br>Director        | Ying Huang Purchasing Director                                     |                          |
|   | For Abrac                      | on EOL only                          |  |                          |
| Last Time Buy (if applicable): 06/30/2021     |                                | Alternate Part Numb                  | oer / Part Series:<br>None   |                          |
| Additional Approval:                          | Additional Approval            | :                                    | Additional Approval:   |                          |
|   | Customer Appro                 | oval (If Applicable)                 |  |                          |
| Qualification Status:                         |                                |                                      |  |                          |
| Note: It is considered approved if there is n | • •                            | ☐ Not accepted ustomer 1 month after | r ECN/PCN is released.   |                          |
| Customer Part Number:                         |                                | Customer Project:                    |  |                          |
| Company Name:                                 | Company Represent              | ative:                               | Representative Signature   | :                        |
| Customer Remarks:                             | <u> </u>                       |                                      | 1  |                          |
|   |                                |                                      |  |                          |



Form #7020 | Rev. G | Effective: 02/22/2021 |







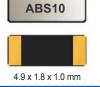




# 32.768 kHz S MD LOW PR OFILE CRYSTA L

ABS10





ABS10 is not recommended for new designs. Please consider the ABS04W or ABS05.

#### FEATURES:

- Low frequency in small size SMD
- 1.0mm height ideal for high density circuit boards
- Ceramic package offers excellent environmental & heat resistance
- Extended temperature -40°C to +85°C for industrial applications

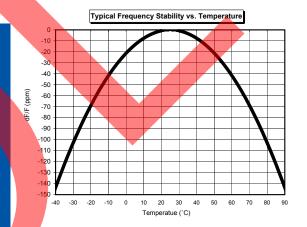
#### > APPLICATIONS:

- Wide range in communication & measuring equipment
- Commercial & Industrial applications
- Wireless communications
- PDA and Palm Pilots

### **STANDARD SPECIFICATIONS:**

| PARAMETERS                         |                                  |  |  |
|------------------------------------|----------------------------------|--|--|
| ABRACON P/N                        | ABS10 Series                     |  |  |
| Nominal Frequency                  | 32.768 kHz                       |  |  |
| Operating Temperature              | -40°C to + 85°C                  |  |  |
| Turn-over Temperature              | +25°C to ±5°C                    |  |  |
| Storage Temperature                | -55°C to +125°C                  |  |  |
| Frequency Tolerance                | ±20 ppm max. (see option)        |  |  |
| Temperature Coefficient (β)        | - 0.034±0.006 ppm/T <sup>2</sup> |  |  |
| Equivalent Series Resistance       | 70 kohms max.                    |  |  |
| Load Capacitance CL                | 12.5 pF (see option)             |  |  |
| Drive Level                        | 1.0 μW max.                      |  |  |
| Aging (first year) 25°C first year | ± 5 ppm max.                     |  |  |
| Insulation Resistance              | 500 MΩ with 100 Vdc ±15V         |  |  |
| Shunt capacitance Co               | 1.0pF typ.                       |  |  |
| Motional capacitance C1            | 2.0fF typ.                       |  |  |

#### TUNING FORK CRYSTAL TEMPERATURE CURVE



#### > OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ABS10 - 32.768kHz - - - - - .

Load Capacitance
Blank: 12.5pF
9: 9pF
7: 7pF

\*Contact ABRACON for non-standard load capacitances.

| Freq. Tolerance |
|-----------------|
| Blank: ± 20 ppm |
| 1: ± 10 ppm     |
| 4: ± 30 ppm     |

Packaging
Blank: Bulk
T: Tape & Reel



# 32.768kHz SMD LOW PROFILE CRYSTAL

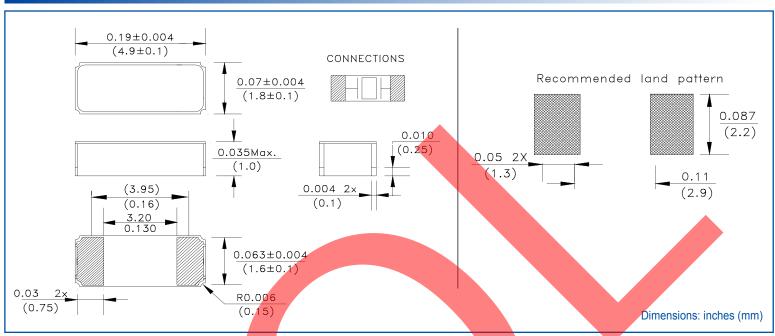
ABS10





ABS10

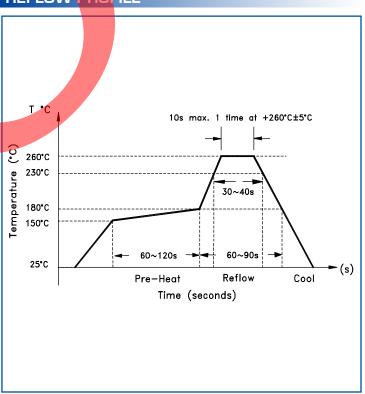
### **OUTLINE DRAWING:**



#### TAPE & REEL: T = Tape and reel 3,000

# FEEDING (PULL) DIRECTION $2.0\pm0.05$ $4.0 \pm 0.1$ 0.3±0.05 Ø1.0 $-8.0\pm0.$ $2.1 \pm 0.1$ 1.1±0.1 ø13.0±0. 2.5 $\emptyset 21.0 \pm 1$

### > REFLOW PROFILE



ATTENTION: Abracon Corporation's products are COTS - Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

Dimensions: mm



120°