

ECN/PCN No.: 3520

| For Manufacturer  |  |   |  |
|---|--|---|--|
| <b>Product Description:</b><br>Thru-Hole; ceramic resonator   | <b>Abracon Part Number / Part Series:</b><br>HWZT-MD       |   | <input checked="" type="checkbox"/> Series<br><input type="checkbox"/> Part Number |
| <b>Affected Revision:</b><br>F  | <b>New Revision:</b><br>EOL                                | <b>Application:</b>                                   | <input type="checkbox"/> Safety<br><input checked="" type="checkbox"/> Non-Safety  |
| <b>Prior to Change:</b>   |  |   |  |
| <a href="https://abracon.com/Resonators/HWZT_MD.pdf">https://abracon.com/Resonators/HWZT_MD.pdf</a>                 |  |   |  |
| <b>After Change:</b>  |  |   |  |
| EOL   |  |   |  |
| <b>Cause/Reason for Change:</b>   |  |   |  |
| Production will be discontinued   |  |   |  |
| Change Plan   |  |   |  |
| <b>Effective Date:</b><br>Immediate   | <b>Additional Remarks:</b>                                 |   |  |
| <b>Change Declaration:</b>  |  |   |  |
| <b>Issued Date:</b><br>4/22/20  | <b>Issued By:</b><br>Stephanie Lopez                       | <b>Issued Department:</b><br>Engineering              |  |
| <b>Approval:</b><br>Thomas Culhane<br>Engineering Director  | <b>Approval:</b><br>Reuben Quintanilla<br>Quality Director | <b>Approval:</b><br>Ying Huang<br>Purchasing Director |  |
| For Abracon EOL only  |  |   |  |
| <b>Last Time Buy (if applicable):</b><br>9/15/2020  |  | <b>Alternate Part Number / Part Series:</b><br>None   |  |
| <b>Additional Approval:</b>   | <b>Additional Approval:</b>                                | <b>Additional Approval:</b>                           |  |
| Customer Approval (If Applicable)   |  |   |  |
| <b>Qualification Status:</b>  |  |   |  |
| <input type="checkbox"/> Approved <input type="checkbox"/> Not accepted   |  |   |  |
| <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i> |  |   |  |
| <b>Customer Part Number:</b>  |  | <b>Customer Project:</b>                              |  |
| <b>Company Name:</b>  | <b>Company Representative:</b>                             | <b>Representative Signature:</b>                      |  |
| <b>Customer Remarks:</b>  |  |   |  |

# LEADED CERAMIC RESONATOR

HWZT-MD

RoHS/RoHS II Compliant

Pb in ceramic, exemption (7c-I)



Size Varies

## FEATURES:

- Low resonant impedance
- Small size, Light weight.
- Low cost timing solution

## APPLICATIONS:

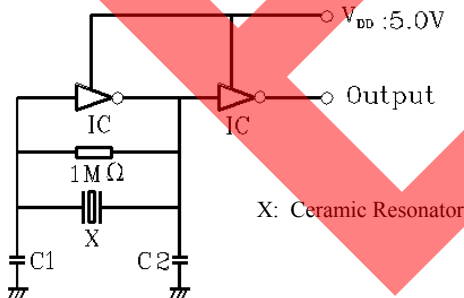
- Clock oscillation for microcontrollers
- Telephones
- Household electric appliances

## STANDARD SPECIFICATIONS:

| Parameters   | Minimum      | Typical | Maximum | Units      | Notes                 |
|--|--------------|---------|---------|------------|-----------------------|
| Frequency Range                                    | 2.00         |         | 6.00    | MHz        |                       |
|  | 12.51        |         | 60.00   |            |                       |
| Resonant Impedance (Ro)                            |              |         | 80      | $\Omega$   | 2.00 MHz ~ 2.99 MHz   |
|  |              |         | 30      |            | 3.00 MHz ~ 6.00 MHz   |
|  |              |         | 30      |            | 12.51 MHz ~ 60.00 MHz |
| Standard Load Capacitance for test circuit (C1=C2) | 24           | 30      | 36      | pF         | 2.00 MHz ~ 6.00 MHz   |
|  | 24           | 30      | 36      |            | 12.51 MHz ~ 20.00 MHz |
|  | 12           | 15      | 18      |            | 20.01 MHz ~ 25.99 MHz |
|  | 4            | 5       | 6       |            | 26.00 MHz ~ 60.00 MHz |
| Frequency Tolerance                                | -0.5         |         | +0.5    | %          |                       |
| Frequency Stability                                | -0.3         |         | +0.3    | %          | -25°C to +85°C        |
| Withstanding Voltage                               |              |         | 50      | Vdc        | DC , 1 min            |
| Rating Voltage                                     | D.C. Voltage |         | 6       | Vdc        |                       |
|  | A.C. Voltage |         | 15      | Vp-p.      |                       |
| Insulation Resistance                              | 100          |         |         | M $\Omega$ | 10Vdc, 1min           |
| Operation Temperature                              | -25          |         | +85     | °C         |                       |
| Storage Temperature                                | -55          |         | +85     | °C         |                       |
| Aging Rate (Fosc)                                  | -0.3         |         | 0.3     | %          | From initial value    |

## TEST CONDITION AND TEST CIRCUIT:

## OPTIONS & PART IDENTIFICATION:



Parts shall be measured under a condition (Temp.: 20±15°C, Humidity: 65±20% R.H.) unless the standard condition (Temp.: 25±2°C, Humidity: 65±5% R.H.) is regulated to measure

HWZT -  MD -

### Frequency

Frequency in MHz

### Packaging

Blank: Bulk  
A: AMMO package\*  
\*AMMO package  
lead length 13.5mm

# LEADED CERAMIC RESONATOR

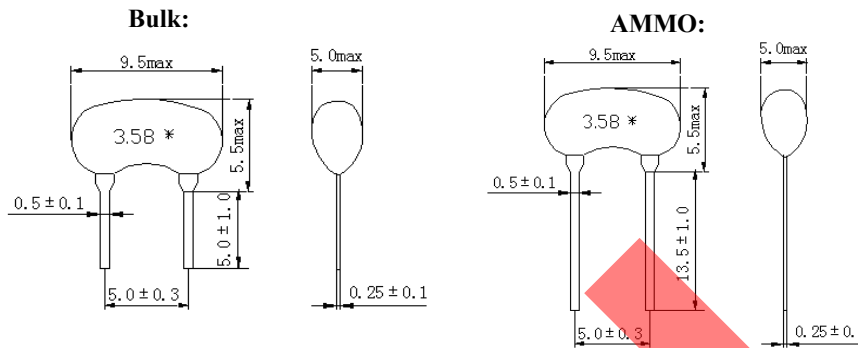
HWZT-MD

RoHS/RoHS II Compliant  
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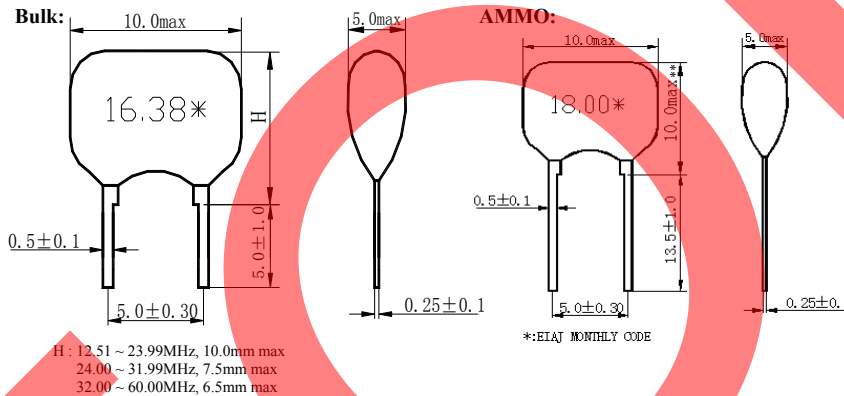


## OUTLINE DRAWING:

### Freq. Range: 2.00 ~ 6.00MHz (Low Profile)



### Freq. Range: 12.51 ~ 60.00MHz



### Packaging:

Bulk: 500pcs/plastic bag

AMMO: 2000pcs/box

**Note:** upon opening the original packaging, it is recommended that the product be used within 1 year. If the product will not be used within 1 year, it is recommended that the product be re-sealed in airtight packaging according to MSL 1 requirements to maintain solderability.

## CAUTION

- (1) Do not apply excess mechanical stress to the component body or terminations. Do not attempt to re-form or bend the components as this will cause damage to the component.
- (2) This component is not hermetically sealed. Do not clean or wash the component.
- (3) Reflow Soldering: Do not use strong acidity flux, such as flux with chlorine content of greater than 0.2wt% during Reflow Soldering.
- (4) Do not expose the component to open flame.
- (5) This specification applies to the functionality of the component as a single unit.
- (6) Storage Conditions: If the product is to be stored for a period greater than 1 year after the Delivery Date, it is recommended that customers confirm the solderability and characteristics for the product prior to use.
- (7) This product is not recommended for use in the following applications: Automotive, Medical, Military, Safety, or any other high-reliability life dependant applications. Contact Abracon Corporation prior to using this product when in doubt.

**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.

ABRACON IS  
ISO9001:2008  
CERTIFIED



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