# Engineering/Process Change Notice

**ECN/PCN No.: 3520**

| For Manufacturer | | |
|---|---|---|
| **Product Description:**<br>Thru-Hole; ceramic resonator | **Abracon Part Number / Part Series:**<br>HWZT-MD | ☒ Series<br>☐ Part Number |
| **Affected Revision:**<br>F | **New Revision:**<br>EOL | **Application:** ☐ Safety<br>☒ Non-Safety |
| **Prior to Change:**<br><br>https://abracon.com/Resonators/HWZT_MD.pdf | | |
| **After Change:**<br><br>EOL | | |
| **Cause/Reason for Change:**<br><br>Production will be discontinued | | |

| Change Plan | | |
|---|---|---|
| **Effective Date:**<br>Immediate | **Additional Remarks:** | |
| **Change Declaration:** | | |
| **Issued Date:**<br>4/22/20 | **Issued By:**<br>*Stephanie Lopez* | **Issued Department:**<br>Engineering |
| **Approval:**<br>*Thomas Culhane*<br>Engineering Director | **Approval:**<br>*Reuben Quintanilla*<br>Quality Director | **Approval:**<br>*Ying Huang*<br>Purchasing Director |

| For Abracon EOL only | | |
|---|---|---|
| **Last Time Buy (if applicable):**<br>**9/15/2020** | **Alternate Part Number / Part Series:**<br>None | |
| **Additional Approval:** | **Additional Approval:** | **Additional Approval:** |

| Customer Approval (If Applicable) | | |
|---|---|---|
| **Qualification Status:**<br>☐ Approved ☐ Not accepted<br>*Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.* | | |
| **Customer Part Number:** | **Customer Project:** | |
| **Company Name:** | **Company Representative:** | **Representative Signature:** |
| **Customer Remarks:** | | |

# 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

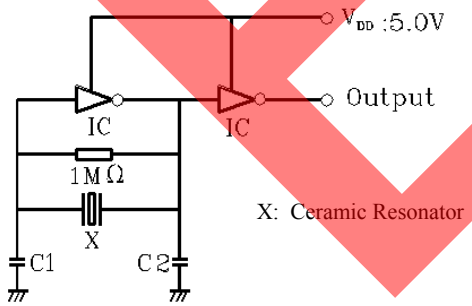
### APPLICATIONS:

- 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 | Ω | 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 | % | -25ºC to +85ºC |
| Withstanding Voltage | | | | 50 | Vdc | DC , 1 min |
| Rating Voltage | D.C. Voltage | | | 6 | Vdc | |
| | A.C. Voltage | | | 15 | Vp-p. | |
| Insulation Resistance | | 100 | | | MΩ | 10Vdc, 1min |
| Operation Temperature | | -25 | | +85 | ºC | |
| Storage Temperature | | -55 | | +85 | ºC | |
| Aging Rate (Fosc) | | -0.3 | | 0.3 | % | From initial value |

### TEST CONDITION AND TEST CIRCUIT:




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

### OPTIONS & PART IDENTIFICATION:

HWZT - [ ] MD - [ ]

| Frequency |
|---|
| Frequency in MHz |

| Packaging |
|---|
| Blank: Bulk |
| A: AMMO package* |

*AMMO package lead length 13.5mm

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RoHS/RoHS II Compliant
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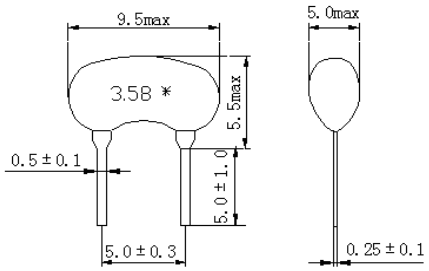
Size Varies

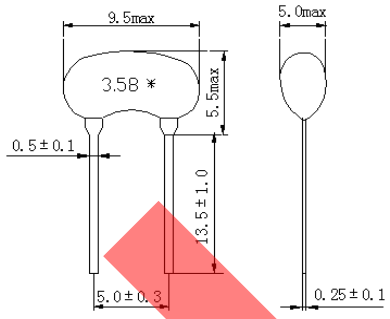
## OUTLINE DRAWING:

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

**Bulk:**

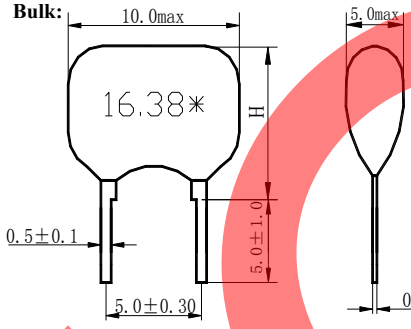



**AMMO:**



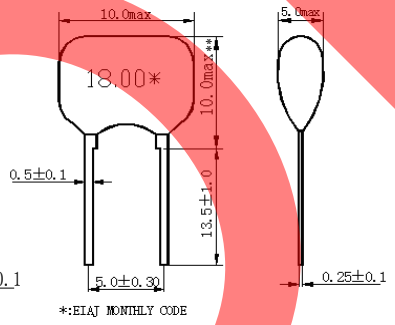

**Freq. Range: 12.51 ~ 60.00MHz**

**Bulk:**




H : 12.51 ~ 23.99MHz, 10.0mm max
24.00 ~ 31.99MHz, 7.5mm max
32.00 ~ 60.00MHz, 6.5mm max

**AMMO:**




*:EIAJ MONTHLY CODE

**Dimension: mm**

## 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. ContactAbracon Corporation prior to using this product when in doubt.





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