

# 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

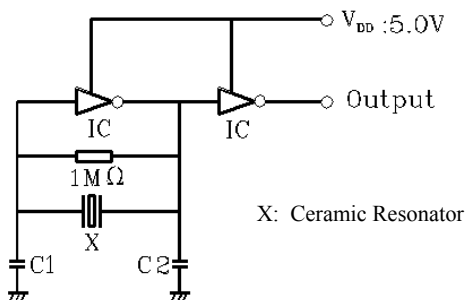
## APPLICATIONS:

- 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:



X: Ceramic Resonator

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

# LEADED CERAMIC RESONATOR

HWZT-MD

RoHS/RoHS II Compliant

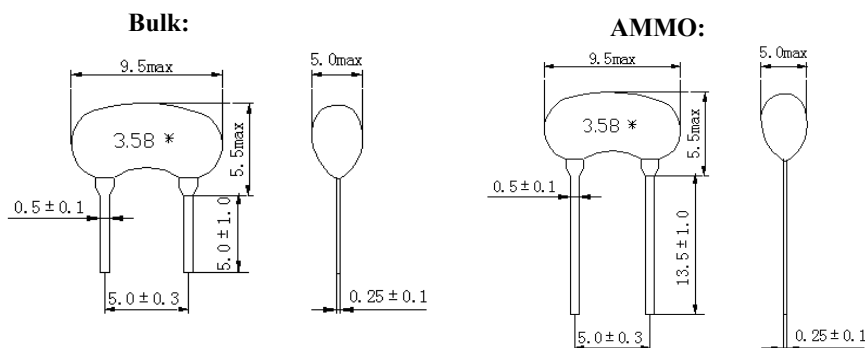
Pb in ceramic, exemption (7c-I)



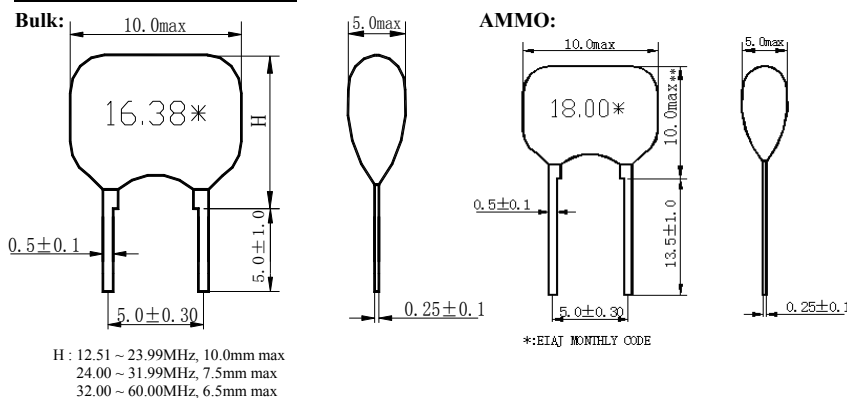
Size Varies

## OUTLINE DRAWING:

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



### Freq. Range: 12.51 ~ 60.00MHz



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. 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



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale

Revised: 05.07.13

30332 Esperanza, Rancho Santa Margarita, California 92688

tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)