

ECN/PCN No.: 3520

For Manufacturer			
<b>Product Description:</b> Thru-Hole; ceramic resonator	<b>Abracon Part Number / Part Series:</b> HWZT-MD		<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number
<b>Affected Revision:</b> F	<b>New Revision:</b> EOL	<b>Application:</b>	<input type="checkbox"/> Safety <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> Immediate	<b>Additional Remarks:</b>		
<b>Change Declaration:</b>			
<b>Issued Date:</b> 4/22/20	<b>Issued By:</b> Stephanie Lopez	<b>Issued Department:</b> Engineering	
<b>Approval:</b> Thomas Culhane Engineering Director	<b>Approval:</b> Reuben Quintanilla Quality Director	<b>Approval:</b> Ying Huang Purchasing Director	
For Abracon EOL only			
<b>Last Time Buy (if applicable):</b> 9/15/2020		<b>Alternate Part Number / Part Series:</b> 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:

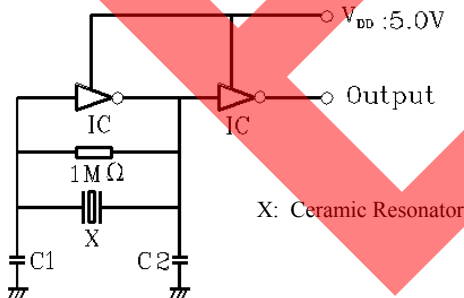
- Clock oscillation for microcontrollers
- Telephones
- Household electric appliances

## 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:



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

HWZT -  MD -

### Frequency

Frequency in MHz

### Packaging

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

# LEADED CERAMIC RESONATOR

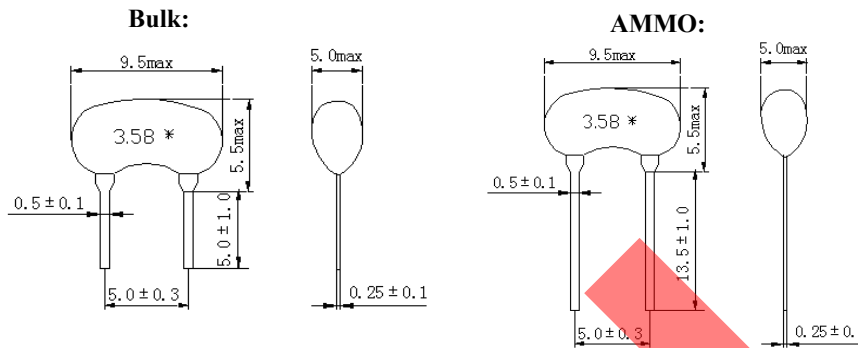
HWZT-MD

RoHS/RoHS II Compliant  
Pb in ceramic, exemption (7c-I)

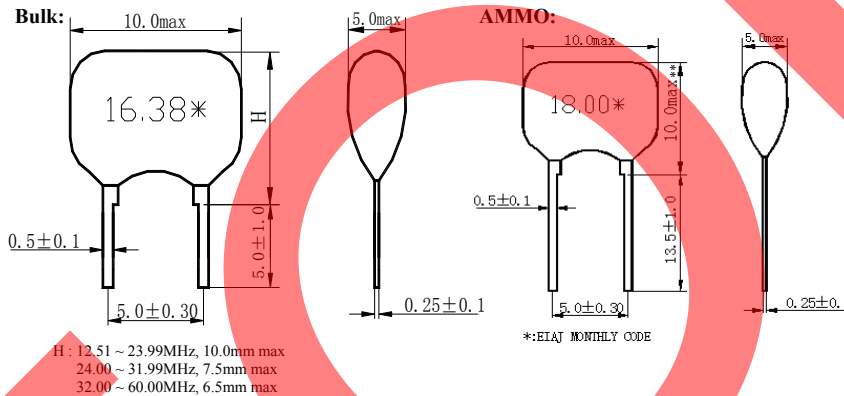


## OUTLINE DRAWING:

### 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.

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