

# LEADED CERAMIC RESONATOR

HWZT-MD

\*C = Pb in ceramic (exempt per RoHS 2002/95/EC Annex (7)) \***C/RoHS**  
Compliant



## FEATURES:

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

## APPLICATIONS:

- Clock oscillation for microcontrollers
- Telephones
- Household electric appliances

## STANDARD SPECIFICATIONS:

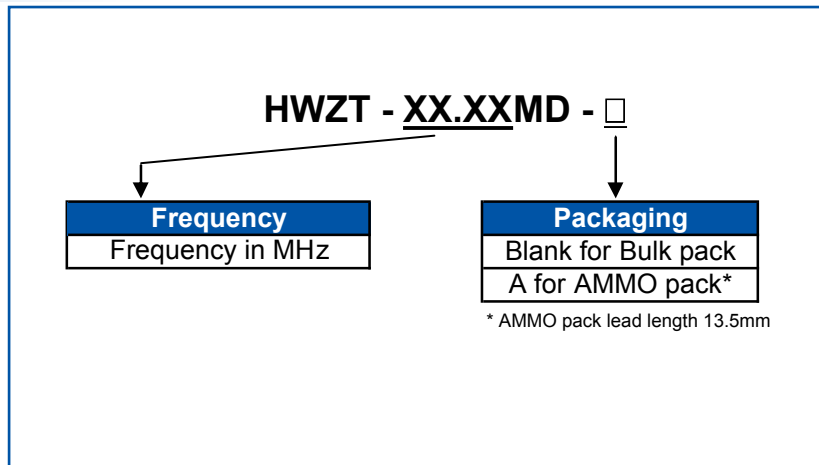
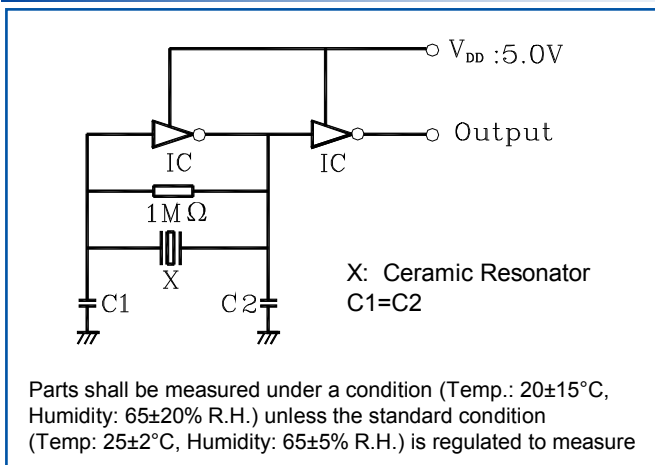
Item	Requirement
Frequency Range	1.79MHz to 3.99MHz
	12.51MHz to 60.00MHz
Resonant Impedance (Ro)	See Table 2.1
Frequency Tolerance	± 0.5%
Frequency Stability	±0.3% max. (-25°C to +85°C)
Withstanding Voltage	50V (DC , 1 min)
Rating Voltage	
(1) D.C.Voltage	6 V.D.C. max
(2) A.C. Voltage	15 Vp-p. max
Insulation Resistance	100MΩ min. (DC 10V)
Operation Temperature	-25°C to +85°C
Storage Temperature	-55°C to +85°C
Aging Rate (Fosc)	±0.3% max. (From initial value)

Table 2.1

Frequency range (MHz)	Resonant Impedance (Ro)(Ω) max	Load Capacitance for test circuit C1=C2 (pF)
1.79 MHz - 2.99 MHz	80	30pF± 20%
3.00 MHz - 3.49 MHz	50	
3.50 MHz - 3.99 MHz	30	
12.51 MHz - 13.00 MHz	30	
13.01 MHz - 20.00 MHz		15pF± 20%
20.01 MHz - 25.99 MHz		
26.00 MHz - 60.00 MHz		

## TEST CONDITION AND TEST CIRCUIT:

## OPTIONS & PART IDENTIFICATION:



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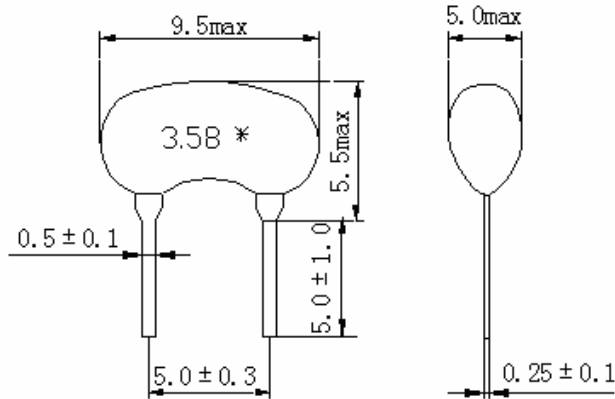
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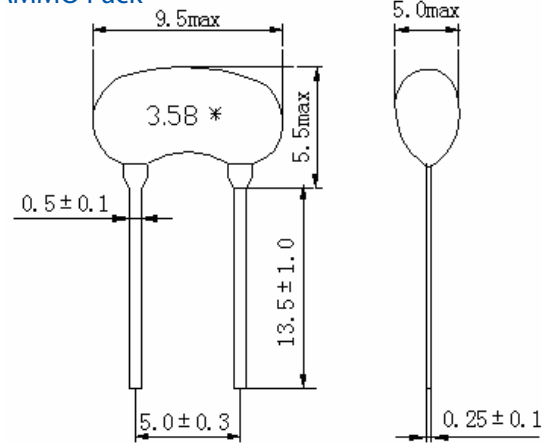
## OUTLINE DRAWING:

Frequency Range: 1.79 MHz ~ 3.99 MHz (Low Profile)

BULK Pack

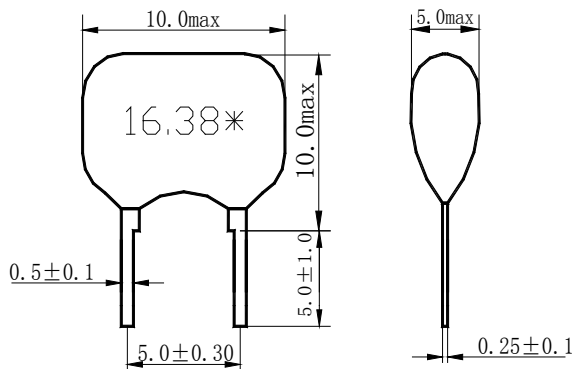


AMMO Pack



Frequency Range: 12.51 MHz ~ 60.00 MHz

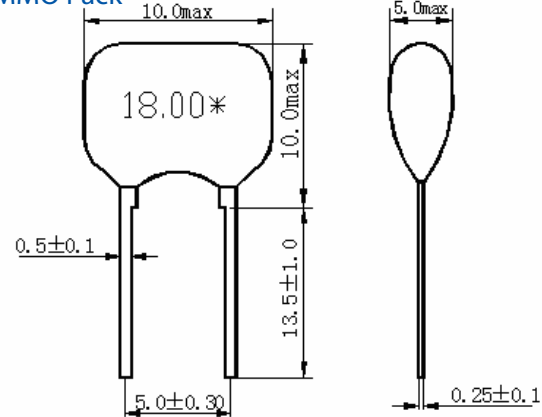
BULK Pack



\*:EIAJ MONTHLY CODE

\*\*: 12.51MHz ~ 23.99MHz, 10.0max  
24.00MHz ~ 31.99MHz, 7.5max  
32.00MHz ~ 60.00MHz, 6.5max

AMMO Pack



\*:EIAJ MONTHLY CODE

## CAUTION

- 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.
- This component is not hermetically sealed. Do not clean or wash the component.
- Reflow soldering: Do not use strong acidity flux, such as flux with chlorine content of greater than 0.2wt% during reflow Soldering.
- Do not expose the component to open flame.
- This specification applies to the functionality of the component as a single unit. Customers are advised to insure that the component is thoroughly evaluated in the particular application.
- Shelf life: The warranted shelf life of this product is six months after the delivery date under the conditions of sealed, unopened, original packaging.
- Storage conditions: If the product is to be stored for a period greater than six months after the delivery date, it is recommended that customers confirm the solderability and characteristics for the product prior to use.
- This product is not recommended for use in the following applications: Automotive, Medical, Military, Safety, or any other high-reliability, life-dependant application. 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  
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CERTIFIED



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