

# LEADED BUILT-IN CAPACITANCE CERAMIC RESONATOR

AWCR-MD

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



## FEATURES:

- Built-in capacitors save space & components
- Low cost timing solution.
- Small size, Light weight

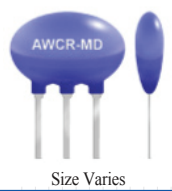
## APPLICATIONS:

- Microprocessor clocks.
- Electric appliances.
- Remote controls.
- Industrial controllers.
- General timing.

## ELECTRICAL CHARACTERISTICS:

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 Built-in Capacitance (C1=C2)	24	30	36	pF	2.00 MHz ~ 6.00 MHz
	17.6	22	26.4		12.51 MHz ~ 13.00 MHz
	24	30	36		13.01 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			MΩ	10Vdc, 1min
Operation Temperature	-25		+85	°C	
Storage Temperature	-55		+85	°C	
Aging Rate (Fosc)	-0.3		0.3	%	From initial value

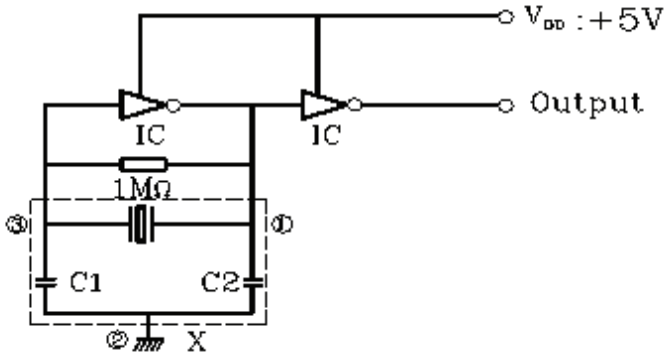
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## TEST CONDITION AND TEST CIRCUIT:



- X: Ceramic Resonator  
 1. Input  
 2. Ground  
 3. Output

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 AND PART IDENTIFICATION

AWCR - [ ] MD - C [ ] - [ ]

**Frequency**  
Frequency in MHz

**Load Capacitance**  
Contact ABRACON for Built-in Capacitance options if not standard

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

### 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.

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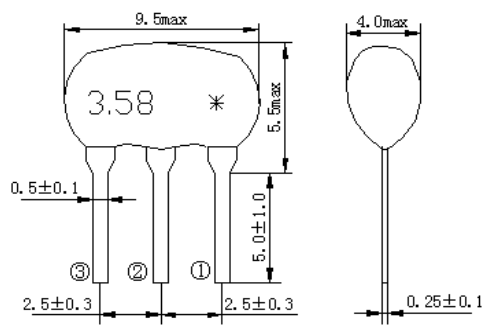


**AWCR-MD**

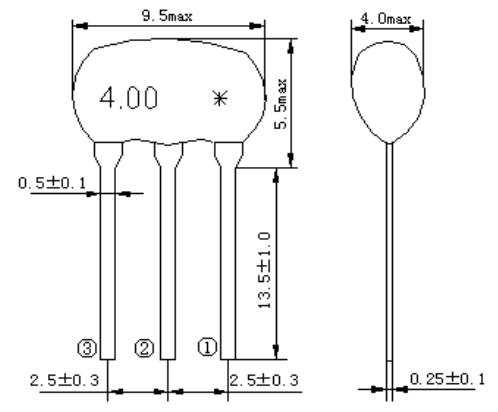
**RoHS/RoHS II Compliant**  
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## OUTLINE DRAWING

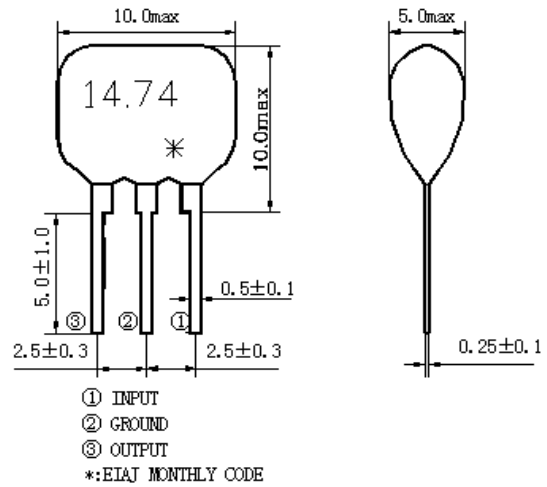
**Freq. Range: 1.79 ~ 6.00MHz (Low Profile)**  
**Bulk:**



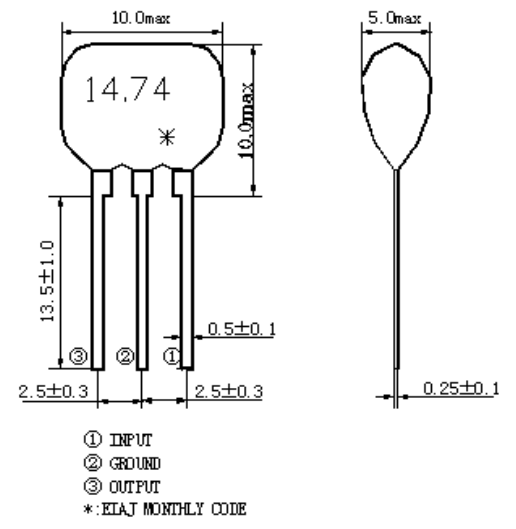
**AMMO:**



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



**AMMO:**



\*\*: 12.51 ~ 13.00MHz, 12.0mm max  
13.01 ~ 60.00MHz, 10.0mm max

## 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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