

# 3.7 x 3.1mm Industrial Grade Built-in Capacitance Ceramic Resonator



3.7 x 3.1 x 1.0mm

**AWSCR-CV**

**Pb in ceramic, exemption (7c-I)**

**RoHS/RoHS II compliant**

**Moisture Sensitivity Level (MSL) – This product is not Moisture Sensitive - MSL = 1**

## FEATURES:

- Low resonant impedance
- Built-in load capacitors
- IR reflow capable

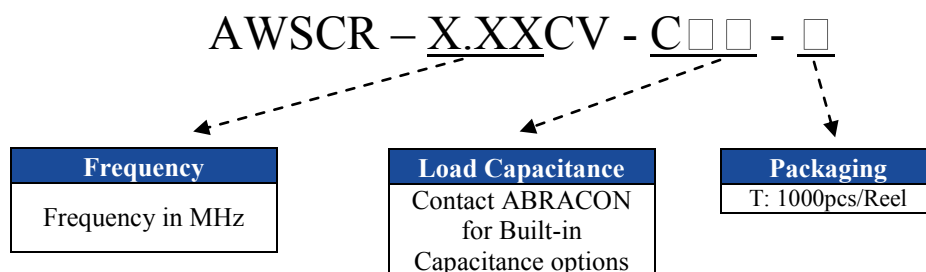
## APPLICATIONS:

- Remote controls, Microprocessor clocks, Mobile phones, DVD & CD-Roms, Electric appliances
- Consumer electronics

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	8.00		13.00	MHz	
	16.00		60.00		
Resonant Impedance (Ro)			30	Ω	8.00 MHz – 13.00 MHz
			60		13.01 MHz – 15.99 MHz
			40		16.00 MHz – 20.00 MHz
			40		20.01 MHz – 25.99 MHz
			40		26.00 MHz – 60.00 MHz
Standard Built-in Capacitance (C1=C2)	22 – 20%	22	22 + 20%	pF	8.00 MHz – 13.00 MHz
	22 – 20%	22	22 + 20%		13.01 MHz – 15.99 MHz
	22 – 20%	22	22 + 20%		16.00 MHz – 20.00 MHz
	10 – 20%	10	10 + 20%		20.01 MHz – 25.99 MHz
	5 – 20%	5	5 + 20%		26.00 MHz – 60.00 MHz
Frequency Tolerance @25 °C	-0.5		0.5	%	
Frequency Stability @ -25°C to +85°C	-0.4		0.4		8.00 MHz – 13.00 MHz
	-0.3		0.3	%	13.01 MHz – 60.00 MHz
Withstanding Voltage		50		V	DC , 1 min
Rating Voltage	(1) D.C. Voltage		6	V	
	(2) A.C. Voltage		15	Vp-p.	
Insulation Resistance	100			MΩ	10V, 1min
Operation Temperature	-25		85	°C	
Storage Temperature	-55		85	°C	
Aging Rate (Fosc) (10 years)	-0.3		0.3	%	

## OPTIONS AND PART IDENTIFICATION:



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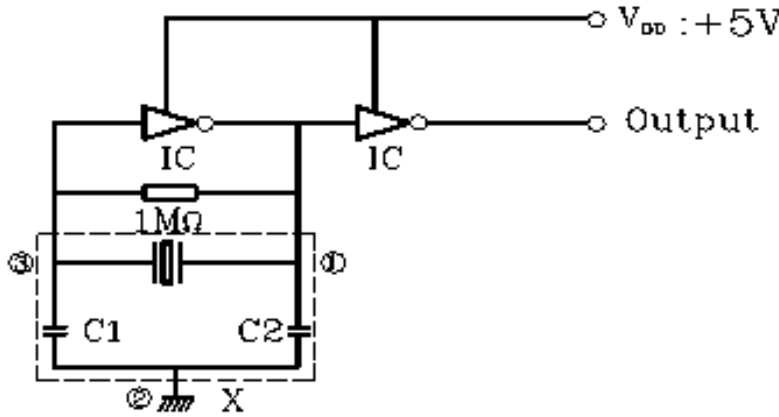
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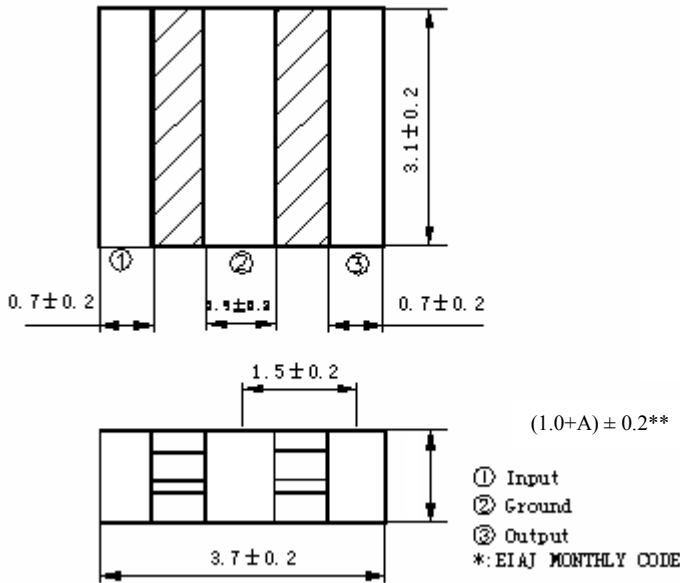
## TEST CIRCUIT:

Parts shall be measured under a condition (Temp.: 20±15°C, Humidity: 65±20% R.H.) unless the standard condition (Temp: 25±3°C, Humidity: 65±10% R.H.) is regulated to measure



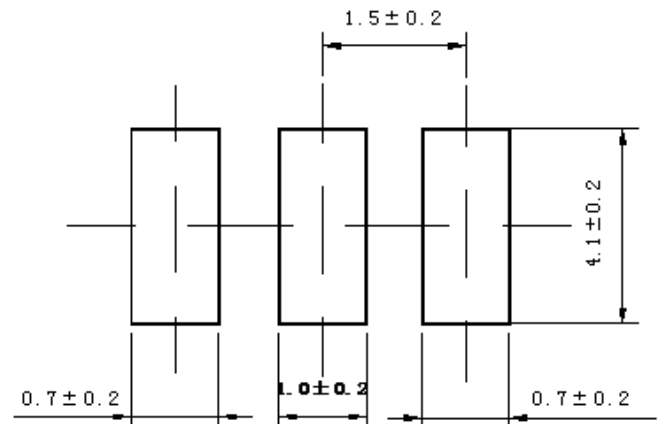
- X: Ceramic Resonator  
 1. Input  
 2. Ground  
 3. Output

## OUTLINE DRAWING:



\*\* A stands for the thickness of the ceramic element, which varies with the frequency

## Recommended Land Pattern



Dimension: mm

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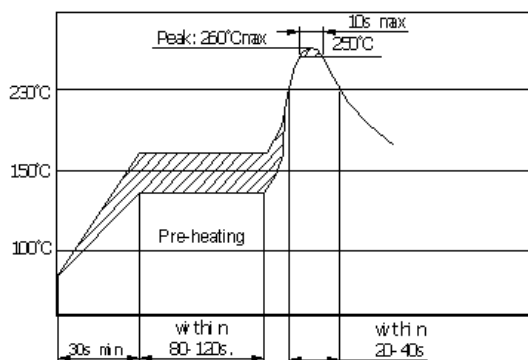
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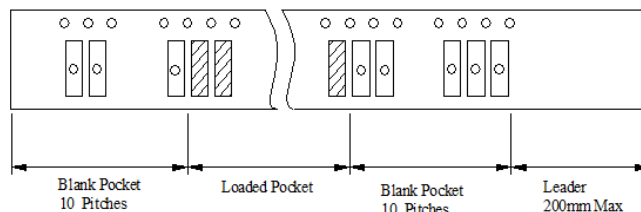
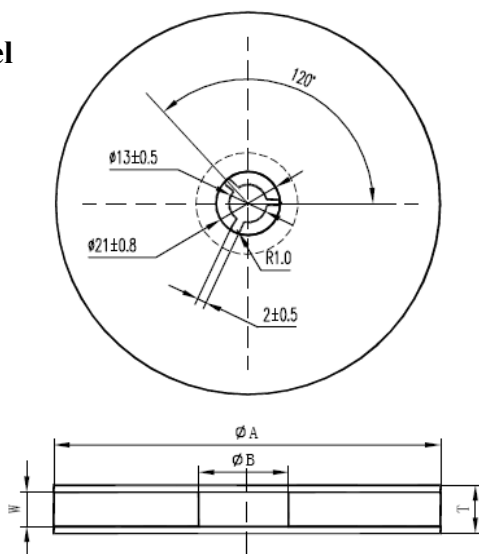
3.7 x 3.1 x 1.0mm

## SUGGESTED REFLOW:



## TAPE & REEL:

**Packaging:**  
**T: 1000pcs/Reel**



Reel Quantity	ΦA	ΦB	W	T	Pieces per reel	Carrier tape size
1000 (T)	180±3	60 min.	12.4 min	19.4 max	1000 typ.	12

**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.**

**Dimensions: mm**

## 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 Six Months 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.

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