



# Ceramic Resonator - CRA

**Pin Type - 10.0 x 10.0 x 5.0**

## • Features

- Low cost & wide applications
- Industrial standard
- RoHS compliant

## • General Specification

| Type                                     | CRA/ MG                      | CRA/ MT          | CRA / MX          |
|--|------------------------------|------------------|-------------------|
|  | 2pins, no built-in capacitor |                  |                   |
| Frequency Range                          | 1.80 to 6.00MHz              | 6.01 to 13.00MHz | 13.01 to 60.00MHz |
| Frequency Stability at 25°C              | 0.50%                        | 0.50%            | ±0.5%             |
| Frequency Stability vs Temperature Range | ±0.3%                        | ±0.3%            | ±0.3%             |
| Operating Temperature Range              | -20°C to +80°C               | -20°C to +80°C   | -20°C to +80°C    |
| Storage Temperature Range                | -35°C to +85°C               | -35°C to +85°C   | -35°C to +85°C    |
| Series Resistance ESR                    | 100Ω                         | 30Ω              | 40Ω               |
| Operating Voltage                        | 5V                           | 5V               | 5V                |
| Aging for 10 years                       | ±0.3%                        | ±0.3%            | ±0.3%             |
| Built-in Capacitor (C1, C2)              | No                           | No               | No                |

## • Holder and Type Codes

|                        |                                  |
|------------------------|----------------------------------|
| CR = Ceramic Resonator | A = 2pins, no built-in capacitor |
|------------------------|----------------------------------|

## • Lead Type Code

|             |
|-------------|
| Blank = N/A |
|-------------|

## • Vibration Mode Codes

|                     |                        |                                 |
|---------------------|------------------------|---------------------------------|
| G = Thickness Shear | T = Thickness Expander | X = Thickness Expander (3rd OT) |
|---------------------|------------------------|---------------------------------|

## • Frequency Stability vs Temperature Codes

|           |           |           |           |
|-----------|-----------|-----------|-----------|
| 1 = ±0.1% | 2 = ±0.2% | 3 = ±0.3% | 5 = ±0.5% |
|-----------|-----------|-----------|-----------|

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## • Loading Capacitance Codes (pF)

|        |        |         |        |
|--------|--------|---------|--------|
| 1 = 5  | 2 = 6  | 3 = 15  | 4 = 22 |
| 5 = 30 | 6 = 47 | 8 = 100 |        |

## • Marking

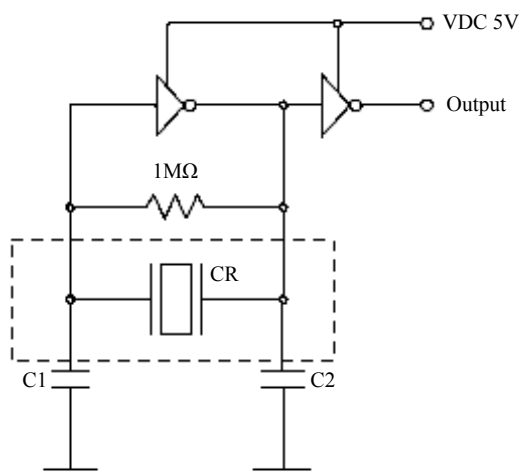
Frequency + M (MHz)

## • Ordering Information

| Holder     | Type                 | Lead Type | Frequency | Vibration Mode | Frequency Stability vs Temp | Load Capacitance | Packing   |
|------------|----------------------|-----------|-----------|----------------|-----------------------------|------------------|-----------|
|            |                      |           | (MHz)     |                |                             | (pF)             |           |
| See Tables |                      |           | xx.xxxM   | See Tables     |                             |                  | Blank=N/A |
|            | A=2pins, no built-in |           |           |                | ±0.3%                       | 30               |           |
| <b>CR</b>  | <b>A</b>             |           |           | <b>G</b>       | <b>3</b>                    | <b>5</b>         |           |

For Example:      CRA3.58MG35

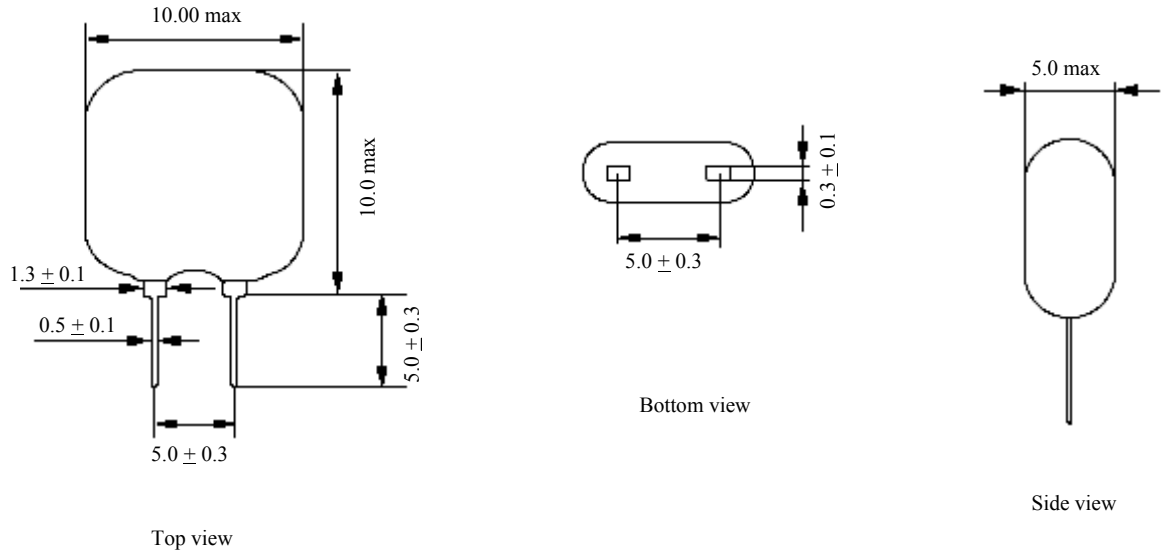
## • Test Circuit



C1/C2:  
 30pF (1.80 to 20.00MHz)  
 15pF(20.01 to 25.99MHz)  
 5pF(26.00 to 50.00MHz)

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## • Dimensions



in mm

## • Packing

Bulk.

## • Reflow Soldering Profile

