

# Ceramic Composition Resistors

## Enhanced Performance for High Voltage Applications - Ignition Non-Inductive (RMCA, RMCB)

### ► Preview

The RMCA, RMCB Series MELF type of fixed ceramic resistors from Token Electronics offers automotive designers a compact solution for applications involving high voltages, surges, high peak power, or high-energy pulses. They offer enhanced performance in R-C snubber circuits, high voltage power supplies, and inrush limiters.

Token's RMCA, RMCB series now offers the industry a direct replacement carbon composition resistor based on a bulk resistive element comprising carbon in a ceramic filler. Due to the need for higher peak voltages, the RMCA, RMCB range is perfect for vehicle ignition system applications.

The RMCA, RMCB Series conform to RoHS compliant and lead free. For customized designs, tighter tolerances, non-standard technical requirements, or custom special applications, please contact our sales for more information.



### Ceramic Composition Resistor Construction :

- Bulk ceramic resistors that consists of a clay, alumina, and ceramic filler that has been blended and pressurized into a resistive core and then covered with a molded outer insulating core.

### Replacement Carbon-Composition Resistors :

- Design requirements for custom sizes, surface mount, or special footprints can be met easily.
- In cases where several carbon-composition resistors have been used together in an array to achieve a particular rating, they have been replaced with a single bulk ceramic resistor, frequently at a lower installed cost.

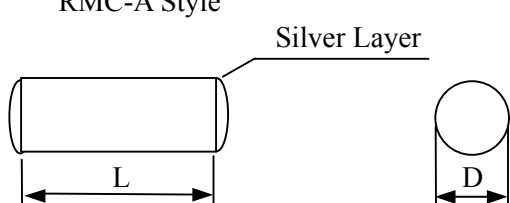
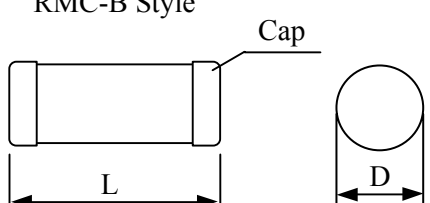
### ► Features

- Operating Temperature -40°C ~ 155°C.
- Resistance Tolerance K(±10%), M(±20%).
- Typical resistance range 470 ohm ~ 100 Kohm.
- Replaces 1 and 2 watt carbon composition resistors.
- Suitable for noise suppressor of engine ignition system.
- High peak power, Reliable with non-disconnection failure.
- Rated Wattage up 5W, meets high energy density demands.

### ► Applications

- Inrush limiters
- R-C snubber circuits
- Vehicle ignition system
- High voltage power supplies

## General Specifications (Unit: mm)

| <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>RMC-A Style</p>  </div> <div style="text-align: center;"> <p>RMC-B Style</p>  </div> </div> |       |               |                 |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------|-----------------|---------------|
| Model                                                                                                                                                                                                                                                                                                                                                                                    | Style | Rated Wattage | Dimensions (mm) |               |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | L               | D             |
| RMC                                                                                                                                                                                                                                                                                                                                                                                      | A     | 1             | $7 \pm 1.5$     | $4.0 \pm 0.4$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $9 \pm 1.5$     | $4.0 \pm 0.4$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $10 \pm 1.5$    | $4.0 \pm 0.4$ |
| RMC                                                                                                                                                                                                                                                                                                                                                                                      | B     | 1             | $11 \pm 1.5$    | $4.6 \pm 0.5$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $18 \pm 1.5$    | $4.0 \pm 0.4$ |
| RMC                                                                                                                                                                                                                                                                                                                                                                                      | A     | 2             | $19 \pm 1.5$    | $4.6 \pm 0.5$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $24 \pm 2.0$    | $4.0 \pm 0.4$ |
| RMC                                                                                                                                                                                                                                                                                                                                                                                      | B     | 2             | $25 \pm 2.0$    | $4.6 \pm 0.5$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $24 \pm 2.0$    | $7.0 \pm 0.5$ |
| RMC                                                                                                                                                                                                                                                                                                                                                                                      | A     | 3             | $25 \pm 2.0$    | $7.6 \pm 0.5$ |
|                                                                                                                                                                                                                                                                                                                                                                                          |       |               | $25 \pm 2.0$    | $7.6 \pm 0.5$ |

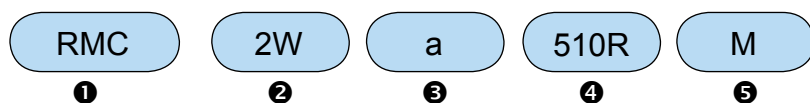
## Electrical Characteristics

| Item                       |              | RMCA, RMCB       |             |             |             |
|----------------------------|--------------|------------------|-------------|-------------|-------------|
| Power Rating at 25°C (W)   |              | 1                | 2           | 3           | 5           |
| Operating Temp. Range (°C) |              | -40 ~ 155        |             |             |             |
| Resistance Tolerance       |              | K(±10%), M(±20%) |             |             |             |
| Resistance Range (Ω)       |              | 470 ~ 33K        | 1K ~ 56K    | 1K ~ 100K   | 470 ~ 33K   |
| Max. Working Voltage (V)   |              | 300              | 350         | 400         | 500         |
| T.C.R (PPM/°C)             | -40°C ~ 25°C | -750 ~ 3300      | -750 ~ 3300 | -750 ~ 3300 | -750 ~ 3300 |
|                            | 25°C~155°C   | -750 ~ 2600      | -750 ~ 2600 | -750 ~ 2600 | -750 ~ 2600 |
| Max. Pulse Voltage (KV)    |              | 8                | 15          | 20          | 25          |
| Moisture Resistance (%)    |              | 10               | 10          | 10          | 10          |

Note: Non-Inductive Performance:

1. Chemically inert and thermally stable, the resistors are inherently non-inductive because of their bulk ceramic construction, which allows energy and power to be uniformly distributed through the entire ceramic resistor body with no film or wire to fail.
2. The bulk ceramic material also allows simple efficient resistor designs that enable the designer to minimize the resistor package size while providing the required performance and reliability.

## ▶ How to Order



❶ Part Number: RMC

❷ Rated Power (W): 1W, 2W, 3W, 5W

❸ Style: a Style, b Style

❹ Resistance Value ( $\Omega$ )

| Code | Resistance Value ( $\Omega$ ) |
|------|-------------------------------|
| 510R | 510 $\Omega$                  |
| 5K1  | 5.1K $\Omega$                 |
| 51K  | 51K $\Omega$                  |
| 68K  | 68K $\Omega$                  |

❺ Resistance Tolerance

| Code | Resistance Tolerance |
|------|----------------------|
| K    | $\pm 10\%$           |
| M    | $\pm 20\%$           |

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