

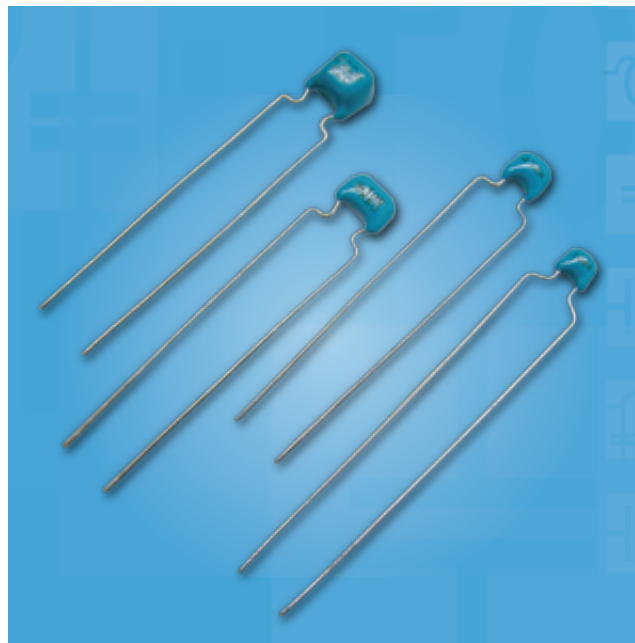
# Radial Leaded Capacitors

Commercial Grade Capacitors – RDE 25/50/100VDC

**muRata**  
Innovator in Electronics

## RDE Product Summary

**RDE Series:** The RDE, radial leaded, epoxy coated monolithic ceramic capacitor has been designed for commercial applications. Murata Electronics North America, Inc. has added a lineup of 25, 50 and 100VDC RDE components in C0G, X7R, X7S and Y5V TC's to the existing 250 and 630VDC, X7R RDE series. All RDE's are RoHS compliant and have an epoxy coating and tin/copper plated radial leads. The commercial grade RDE's are designed for general use electronics applications and not for automotive powertrain and safety (ABS, Air Bag, etc) applications. They are a cost effective alternative to our automotive grade RPE series for noncritical applications.



### Features:

- **Case Size:** 0, 1, 2, 3 and W (See dimensions table on back for details.)
- **Body Size:** The 0 & 1 size RDE products are the smallest leaded devices offered by Murata.
- **Lead Spacing:** 2.5 +/- 0.8mm, 5.0 +/- 0.8mm
- **Voltage:** 25, 50 and 100VDC
- **Cap Range:** See "Capacitance Range" Chart on page 2
- **Base Metal Inner Electrodes:** Copper plating + Ni plating + Sn plated terminations
- **Body Coating:** Epoxy coated body with Tin/Copper coated Radial Leads
- **Tolerance:** [J]=+/-5% for C0G, [K]=+/-10% for X7R and X7S and [Z]=+80/-20% for Y5V
- **Temp. Characteristics:** C0G (-55 to 125°C, +/- 30ppm/°C), X7R (-55 to 125°C, +/- 15%), X7S (-55 to 125°C, +/- 22%) and Y5V (-30 to 85°C, +22/- 82%)

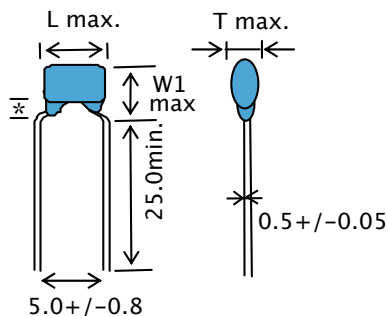


**Applications:** Commercial Electronics, Consumer Electronics, White Goods

# Radial Leaded Capacitors

## Commercial Grade Capacitors – RDE 25/50/100VDC

### RDE Data Sheet

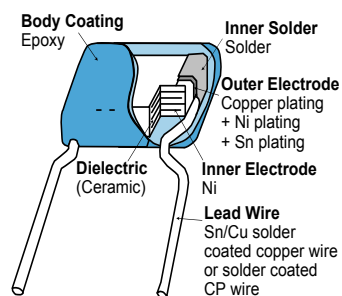


#### Dimensions (mm max)

| Size Code | L   | W1   | T    |
|-----------|-----|------|------|
| 0         | 4.0 | 6.0  | 2.5  |
| 1         | 4.5 | 5.0  | 3.15 |
| 2         | 5.5 | 6.0  | 3.15 |
| 3         | 5.5 | 7.5  | 4.0  |
| W         | 5.5 | 10.0 | 4.0  |

\* Coating Extension does not exceed the end of the lead bend.

#### Structure



### Capacitance Range

| Size Code | TC  | WV   | Capacitance Range |       |  |  |        |  |  |        |       |     |      |               |                      |
|-----------|-----|------|-------------------|-------|--|--|--------|--|--|--------|-------|-----|------|---------------|----------------------|
|           |     |      | 10pF              | 100pF |  |  | 1000pF |  |  | 0.01uF | 0.1uF | 1uF | 10uF | 100uF         | pF / uF              |
| 0         | C0G | 50V  |                   |       |  |  |        |  |  |        |       |     |      |               | 10pF to 1000pF (E12) |
|           |     | 100V |                   |       |  |  |        |  |  |        |       |     |      |               | 10pF to 1000pF (E12) |
| 0         | X7R | 25V  |                   |       |  |  |        |  |  |        |       |     |      |               | 0.1uF                |
| 0         |     | 50V  |                   |       |  |  |        |  |  |        |       |     |      |               | 220pF to 0.1uF       |
| 1         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 0.15uF to 0.47uF     |
| 2         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 0.68uF to 2.2uF      |
| 3         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 3.3uF                |
| 0         |     | 100V |                   |       |  |  |        |  |  |        |       |     |      |               | 1000pF to 0.022uF    |
| 1         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 0.033uF to 0.47uF    |
| 2         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 1uF                  |
| 0         |     |      |                   |       |  |  |        |  |  |        |       |     |      | 0.22uF to 1uF |                      |
| 1         | X7S | 25V  |                   |       |  |  |        |  |  |        |       |     |      |               | 2.2uF                |
| 2         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 4.7uF, 10uF          |
| 3         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 22uF                 |
| W         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 47uF                 |
| 2         |     | 50V  |                   |       |  |  |        |  |  |        |       |     |      |               | 4.7uF                |
| 3         |     |      |                   |       |  |  |        |  |  |        |       |     |      |               | 2.2uF                |
| W         |     | 100V |                   |       |  |  |        |  |  |        |       |     |      | 4.7uF         |                      |
| 0         | Y5V | 50V  |                   |       |  |  |        |  |  |        |       |     |      |               | 0.01uF to 0.1uF      |

### Global Part Numbering

|     |    |    |     |   |   |    |     |   |
|-----|----|----|-----|---|---|----|-----|---|
| RDE | R7 | 1H | 104 | K | 0 | K1 | C03 | B |
| 1   | 2  | 3  | 4   | 5 | 6 | 7  | 8   | 9 |

#### 1 Type Name

| Name | Coated Material |
|------|-----------------|
| RDE  | Epoxy Coating   |

#### 3 Rated Voltage

| Code | Rated Voltage |
|------|---------------|
| 1E   | 25V           |
| 1H   | 50V           |
| 2A   | 100V          |

#### 4 Capacitance

| Capacitance Step     |
|----------------------|
| See Part Number List |

#### 5 Capacitance Tolerance

| Code | Tolerance |
|------|-----------|
| J    | +/-5%     |
| K    | +/-10%    |
| M    | +/-20%    |
| Z    | +80/-20%  |

#### 2 Temperature Characteristics

| Code | Temp. Char. | Operating Temp. Range | Capacitance Change |
|------|-------------|-----------------------|--------------------|
| 5C   | C0G         | -55 to 125°C          | 0+/-30ppm/°C       |
| R7   | X7R         | -55 to 125°C          | +15/-15%           |
| C7   | X7S         | -55 to 125°C          | +22/-22%           |
| F5   | Y5V         | -30 to 85°C           | +22/-82%           |

#### 6 Dimensions (L x W)

| Code | L x W        |
|------|--------------|
| 0    | 4.0 x 6.0mm  |
| 1    | 4.5 x 5.0mm  |
| 2    | 5.5 x 6.0mm  |
| 3    | 5.5 x 7.5mm  |
| W    | 5.5 x 10.0mm |

#### 7 Lead Configuration & Space

| Code | Lead Configuration   | Lead Space |
|------|----------------------|------------|
| P1   | Outside-crimp Bulk   | F=2.5mm    |
| S1   | Outside-crimp Taping | F=2.5mm    |
| K1   | Incrimp Long Bulk    | F=5.0mm    |
| M1   | Incrimp Taping       | F=5.0mm    |

#### 9 Packaging

| Code | Package Type | Size Code | Std. Pack Qty.          |
|------|--------------|-----------|-------------------------|
| B    | Bulk         | 0 - 3     | 500 pcs.                |
| A    | Ammo Pack    | 0 - 3     | 2000 pcs. <sup>1)</sup> |

<sup>1)</sup> Confirm detail specifications