

# PMR205

RoHS  
Compliant

- RC unit, metallized paper with integrated resistor
- 0.1 – 1.0  $\mu\text{F}$ , 22 – 680  $\Omega$ , 125 VAC, +85 °C

- Small dimensions
- High dU/dt capability.
- Excellent self-healing properties. Ensures long life even when subjected to frequent overvoltages.
- Self-extinguishing encapsulation.
- Good resistance to ionisation due to impregnated dielectric.
- The impregnated paper ensures excellent stability giving outstanding reliability properties, especially in applications having continuous operation.

## TYPICAL APPLICATIONS

RC unit for use in DC and AC applications for:

- contact protection
- interference suppression of contacts
- transient suppression

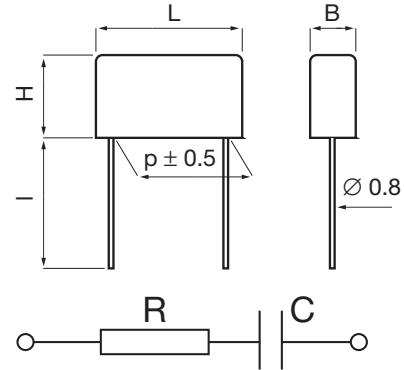
## CONSTRUCTION

Single layer metallized paper. Encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94V-0. The resistance in the metal layer is utilized as series resistance, integrated resistor.

## TECHNICAL DATA

|                              |   |
|------------------------------|---|
| <b>Rated voltage</b>         | 250 VDC, 125 VAC  |
| <b>Capacitance range</b>     | 0.1–1.0 $\mu\text{F}$   |
| <b>Capacitance tolerance</b> | $\pm 20\%$  |
| <b>Resistance range</b>      | 22 – 680 $\Omega$   |
| <b>Resistance tolerance</b>  | $\pm 30\%$  |
| <b>Peak pulse voltage</b>    | 375 V   |
| <b>Temperature range</b>     | –40 to +85°C  |
| <b>Climatic category</b>     | 40/085/56/B   |
| <b>Series resistance</b>     | The series resistance is defined at 1 kHz for $RC \geq 50 \mu\text{s}$ and at 100 kHz for $RC < 50 \mu\text{s}$ .   |
| <b>Insulation resistance</b> | $\geq 3000 \text{ M}\Omega$ for $C \leq 0.33 \mu\text{F}$<br>$\geq 1000 \text{ s}$ for $C > 0.33 \mu\text{F}$<br>Measured at 100 VDC after 60 s, +23°C                  |
| <b>Power ratings</b>         | The average losses may reach 0.5 W provided the surface temperature does not exceed + 85°C. For maximum permitted power dissipation v temperature, see derating curves. |

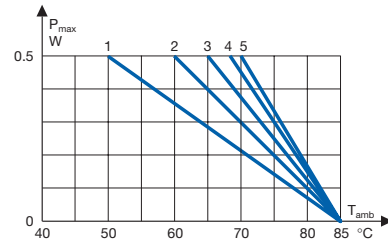
| Curve | Dimensions |
|-------|------------|
| 1     | B = 5.2    |
| 2     | B = 7.3    |
| 2     | B = 7.8    |
| 3     | B = 7.6    |
| 4     | B = 9.0    |
| 5     | B = 11.3   |



l: standard: 30 +5/-0 mm (code R30)

option 1: short leads, tolerance +0/-1 mm (standard 6 mm, code R06)  
Other lead lengths on request

option 2: 30 mm insulated solid leads, ordering code: replace R30 with R300PS in std P/N



Maximum allowable power dissipation vs ambient temperature and case sizes.

## ENVIRONMENTAL TEST DATA

|                      |                         |  |   |
|----------------------|-------------------------|--|---|
| <b>Vibration</b>     | IEC 60068-2-6, Test Fc  | 3 directions at 2 hour each<br>10 – 500 Hz at 0.75 mm or 98 m/s <sup>2</sup> | No visible damage, No open or short circuit |
| <b>Bump</b>          | IEC 60068-2-29, Test Eb | 4000 bumps at 390 m/s <sup>2</sup>   | No visible damage, No open or short circuit |
| <b>Solderability</b> | IEC 60068-2-20, Test Ta | Solder globule method  | Wetting time < 1 s                          |
| <b>Humidity</b>      | IEC 60068-2-3, Test Ca  | +40°C and 90 – 95% R.H.  | 56 days                                     |

## ARTICLE TABLE

| Capacitance<br>$\mu\text{F}$ | Resistance<br>$\Omega$ | Max dimensions in mm |      |      |      | Quantity per package |            |                      | Weight<br>g | Article code        |
|------------------------------|------------------------|----------------------|------|------|------|----------------------|------------|----------------------|-------------|---------------------|
|                              |                        | B                    | H    | L    | p    | R30<br>pcs           | R06<br>pcs | reel<br>taped<br>pcs |             |                     |
| 0.10                         | 33                     | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6100M033R30 |
| 0.10                         | 47                     | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6100M047R30 |
| 0.10                         | 100                    | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6100M100R30 |
| 0.10                         | 220                    | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6100M220R30 |
| 0.15                         | 68                     | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6150M068R30 |
| 0.15                         | 100                    | 5.2                  | 10.5 | 18.5 | 15.2 | 500                  | 1000       | 600                  | 1.7         | PMR205AB6150M100R30 |
| 0.22                         | 47                     | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6220M047R30 |
| 0.22                         | 100                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6220M100R30 |
| 0.22                         | 220                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6220M220R30 |
| 0.22                         | 330                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6220M330R30 |
| 0.22                         | 470                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6220M470R30 |
| 0.25                         | 200                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6250M200R30 |
| 0.25                         | 350                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6250M350R30 |
| 0.25                         | 600                    | 7.3                  | 13.0 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.0         | PMR205AB6250M600R30 |
| 0.33                         | 47                     | 7.8                  | 13.5 | 18.5 | 15.2 | 400                  | 800        | 400                  | 3.3         | PMR205AB6330M047R30 |
| 0.47                         | 22                     | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M022R30 |
| 0.47                         | 33                     | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M033R30 |
| 0.47                         | 47                     | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M047R30 |
| 0.47                         | 68                     | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M068R30 |
| 0.47                         | 100                    | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M100R30 |
| 0.47                         | 150                    | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M150R30 |
| 0.47                         | 220                    | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M220R30 |
| 0.47                         | 330                    | 7.6                  | 14.0 | 24.0 | 20.3 | 250                  | 1500       | 250                  | 4.0         | PMR205AC6470M330R30 |
| 0.47                         | 470                    | 9.0                  | 15.0 | 24.0 | 20.3 | 200                  | 1200       | 250                  | 5.0         | PMR205AC6470M470R30 |
| 0.47                         | 680                    | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       | 180                  | 7.0         | PMR205AC6470M680R30 |
| 1.0                          | 33                     | 10.6                 | 16.1 | 30.5 | 25.4 | 150                  | 1000       |                      | 8.6         | PMR205AE7100M033R30 |
| 1.0                          | 47                     | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       |                      | 7.0         | PMR205AC7100M047R30 |
| 1.0                          | 68                     | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       |                      | 7.0         | PMR205AC7100M068R30 |
| 1.0                          | 100                    | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       |                      | 7.0         | PMR205AC7100M100R30 |
| 1.0                          | 150                    | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       |                      | 7.0         | PMR205AC7100M150R30 |
| 1.0                          | 220                    | 11.3                 | 16.5 | 24.0 | 20.3 | 150                  | 1000       |                      | 7.0         | PMR205AC7100M220R30 |

## ORDERING INFORMATION

The article code for the standard part is given in the article table.  
For other options, see page 11.

## MARKING

- RIFA
- RIFA article code
- RC unit
- Rated capacitance and resistance
- Rated voltage
- MP, for metallized paper
- Climatic category according to IEC 60068-1, appendix A
- Passive flammability class
- Circuit diagram
- Manufacturing code (year, month)