

# PME294



- EMI suppressor, class Y1, metallized paper
- Safety capacitor, ceramic replacement
- 470 – 4700 pF, 440 VAC, +115 °C, test voltage 4000 VAC 60 s

- Self-extinguishing encapsulation. The material is recognized according to UL 94 V-0.
- Very precise positioning of the leads in relation to the case giving efficient utilisation of PC board space.
- Excellent self-healing properties. Ensures long life even when subjected to frequent overvoltages.
- High dU/dt capability.
- Good resistance to ionisation due to impregnated dielectric.
- The capacitors meet the most stringent IEC humidity class, 56 days.
- The impregnated paper ensures excellent stability giving outstanding reliability properties, especially in applications having continuous operation.

## TYPICAL APPLICATIONS

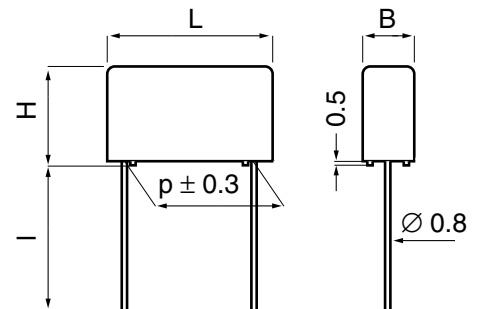
Safety capacitor for bridging of double or reinforced insulation applications requiring voltage test up to 4000 VAC 60 seconds. PME294 can be left in place during this test.

## CONSTRUCTION

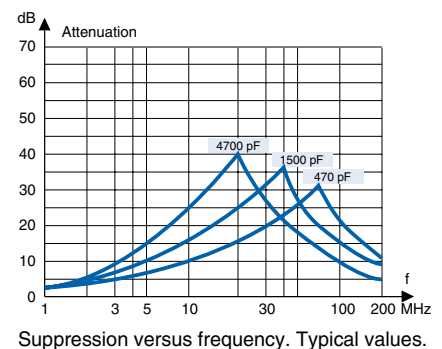
Multi-layer metallized paper. Encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94V-0.

## TECHNICAL DATA

|                                |                                                                                                                                                                                                                              |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated voltage                  | 440 VAC 50/60 Hz                                                                                                                                                                                                             |
| Capacitance range              | 470 – 4700 pF                                                                                                                                                                                                                |
| Capacitance tolerance          | ± 20%                                                                                                                                                                                                                        |
| Temperature range              | –40 to +115 °C                                                                                                                                                                                                               |
| Climatic category IEC          | 40/115/56/B                                                                                                                                                                                                                  |
| Approvals                      | S, N, D, FI, VDE, SEV, IMQ, UL, CSA                                                                                                                                                                                          |
| Dissipation factor tanδ        | ≤ 1.3 % at 1 kHz                                                                                                                                                                                                             |
| Insulation resistance          | ≥ 12000 MΩ<br>Measured at 500 VDC after 60 s, +23°C                                                                                                                                                                          |
| Resonance frequency            | Tabulated self-resonance frequencies $f_0$ refer to 5 mm lead length.                                                                                                                                                        |
| In DC applications             | Recommended voltage: ≤ 1500 VDC                                                                                                                                                                                              |
| Test voltage between terminals | The 100% screening factory test is carried out at 4000 VAC, 50 Hz, 2 s. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. |



l = standard : 30 +5/-0 mm  
option : short leads, tolerance +0/-1 mm (standard 6 mm, code R06)  
Other lead lengths on request



## ENVIRONMENTAL TEST DATA

|                      |                                  |                                                                              |                                               |
|----------------------|----------------------------------|------------------------------------------------------------------------------|-----------------------------------------------|
| Vibration            | IEC 60068-2-6<br>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<br>No open or short circuit |
| Bump                 | IEC 60068-2-29<br>Test Eb        | 4000 bumps at 390 m/s <sup>2</sup>                                           | No visible damage<br>No open or short circuit |
| Solderability        | IEC 60068-2-20<br>Test Ta        | Solder globule method                                                        | Wetting time < 1 s                            |
| Active flammability  | EN 132400                        |                                                                              |                                               |
| Passive flammability | IEC 60384-14 (1993)<br>EN 132400 |                                                                              |                                               |
| Humidity             | IEC 60068-2-3<br>Test Ca         | +40°C and 90 – 95% R.H.                                                      | 56 days                                       |

## ARTICLE TABLE

| Capacitance<br>pF | Max dimensions<br>in mm |      |      |      | Quantity per package |            |                      | Weight<br>g | f <sub>o</sub><br>MHz | Max<br>dU/dt<br>V/μs | Approvals |   |   |   |   |   |   |   |   |   | Article code     |
|-------------------|-------------------------|------|------|------|----------------------|------------|----------------------|-------------|-----------------------|----------------------|-----------|---|---|---|---|---|---|---|---|---|------------------|
|                   | B                       | H    | L    | p    | R30<br>pcs           | R06<br>pcs | reel<br>taped<br>pcs |             |                       |                      | o         | z | o | z | o | z | o | z | o | z |                  |
| 470               | 5.5                     | 12.0 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 1.7         | 64                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB3470MR30 |
| 560               | 5.5                     | 12.0 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 1.7         | 59                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB3560MR30 |
| 680               | 5.5                     | 12.0 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 1.7         | 54                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB3680MR30 |
| 820               | 5.5                     | 12.5 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 1.8         | 49                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB3820MR30 |
| 1000              | 5.5                     | 12.5 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 1.8         | 46                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4100MR30 |
| 1200              | 5.5                     | 14.0 | 18.0 | 15.0 | 500                  | 1000       | 600                  | 2.0         | 43                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4120MR30 |
| 1500              | 5.5                     | 14.5 | 18.0 | 15.0 | 500                  | 800        | 600                  | 2.1         | 40                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4150MR30 |
| 1800              | 7.5                     | 13.0 | 18.0 | 15.0 | 400                  | 600        | 400                  | 2.5         | 37                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4180MR30 |
| 2200              | 7.5                     | 13.0 | 18.0 | 15.0 | 400                  | 600        | 400                  | 2.5         | 33                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4220MR30 |
| 2500              | 7.5                     | 13.5 | 18.0 | 15.0 | 400                  | 600        | 400                  | 2.6         | 31                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4250MR30 |
| 2700              | 7.5                     | 15.5 | 18.0 | 15.0 | 400                  | 600        | 400                  | 3.0         | 30                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4270MR30 |
| 3300              | 7.5                     | 15.5 | 18.0 | 15.0 | 400                  | 600        | 400                  | 3.0         | 27                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4330MR30 |
| 3900              | 8.5                     | 17.0 | 18.0 | 15.0 | 250                  | 400        | 400                  | 3.6         | 24                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4390MR30 |
| 4700              | 8.5                     | 17.0 | 18.0 | 15.0 | 250                  | 400        | 400                  | 3.6         | 22                    | 2000                 | √         | √ | √ | √ | √ | √ | √ | √ | √ | √ | PME294RB4470MR30 |

## APPROVALS/REFERENCE DOCUMENTS

| Certification Body | Specification                                           | Approval reference |
|--------------------|---------------------------------------------------------|--------------------|
| S                  | EN 132400                                               | 9902042/01         |
| N                  | EN 132400                                               | P99100386          |
| D                  | EN 132400                                               | DK99-00529         |
| FI                 | EN 132400                                               | 205353             |
| VDE                | EN 132400                                               | 91852              |
| SEV                | EN 132400                                               | 99.7 70114.01      |
| IMQ                | EN 132400                                               | V4715              |
| UL                 | UL 1414 (U <sub>R</sub> = 250 VAC)<br>Double protection | E73869             |
| CSA                | C22.2. No 1                                             | 53108              |
|                    | C22.2. No. 8                                            | 53108              |

## MARKING

- RIFA
- RIFA article code
- Rated capacitance
- Rated voltage
- Climatic category according to IEC 60068-1, appendix A
- Passive flammability class
- Approval marks
- Manufacturing code (year, month)

## ORDERING INFORMATION

The article code for the standard part is given in the article table.  
For other options, see page 21.

## PACKING

Capacitors in standard design (lead length 30 mm) and with lead length 5 or 6 mm are packed bulk in a box with dimensions 245 x 145 x 80 mm. Quantity/package as per article table.

Reels with taped capacitors are packed 10 in a box with dimension 370 x 370 x 560 mm. The standard quantity/reel is for 360 mm reel. If 500 mm reel is required, it must be specified when ordering and the quantity is 2 x the given quantity.