

# PME285

- EMI suppressor, class X2, metallized paper
- 0.001 – 0.1  $\mu\text{F}$ , 275 VAC, +110 °C

- The highest possible safety regarding active and passive flammability.
- Self-extinguishing encapsulation. The material is recognized according to UL 94 V-0.
- Very precise positioning of 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

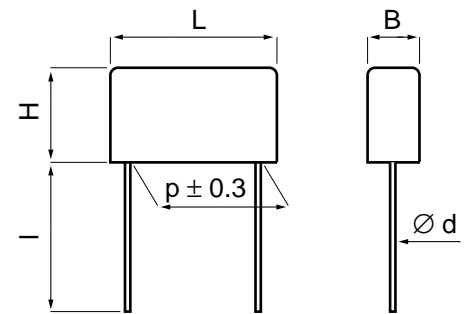
The capacitors are intended for use as interference suppressors in X2, across-the-line, antenna-coupling and line-by-pass.

## CONSTRUCTION

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

## TECHNICAL DATA

|                                 |   |
|---------------------------------|---|
| Rated voltage                   | 275 VAC 50/60 Hz  |
| Capacitance range               | 0.001 – 0.1 $\mu\text{F}$   |
| Capacitance tolerance           | $\pm 20\%$  |
| Temperature range               | -40 to +110°C   |
| Climatic category IEC           | 40/110/56/B   |
| Approvals                       | S, N, D, FI, VDE, SEV, IMO, UL, CSA   |
| Dissipation factor $\tan\delta$ | $\leq 1.3\%$ at 1 kHz   |
| Insulation resistance           | $\geq 12000\text{ M}\Omega$<br>Measured at 500 VDC after 60 s, +23°C  |
| Resonance frequency             | Tabulated self-resonance frequencies $f_0$ refer to 5 mm lead lengths.  |
| In DC applications              | Recommended voltage: $\leq 630\text{ VDC}$  |
| Test voltage between terminals  | The 100% screening factory test is carried out at 2150 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. |



$d = 0.6$  for  $p = 10.2$   
 $0.8$  for  $p = 15.2$  and  $20.3$   
 $1.0$  for  $p = 25.4$

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

## ENVIRONMENTAL TEST DATA

|                      |                                 |  |   |
|----------------------|---------------------------------|--|---|
| Vibration            | 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<br>No open or short circuit |
| Bump                 | IEC 60068-2-29, 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, 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, Test Ca          | +40°C and 90 – 95% R.H.  | 56 days                                       |

ARTICLE TABLE

| Capacitance<br>µF | Max dimensions<br>in mm |      |      |      | Quantity per package<br>reel |            |              | Weight<br>g | f <sub>o</sub><br>MHz | Max<br>dU/dt<br>V/µs | Approvals |   |   |    |     |     |     |    | Article code<br>1 st block |               |
|-------------------|-------------------------|------|------|------|------------------------------|------------|--------------|-------------|-----------------------|----------------------|-----------|---|---|----|-----|-----|-----|----|----------------------------|---------------|
|                   | B                       | H    | L    | p    | R30<br>pcs                   | R06<br>pcs | taped<br>pcs |             |                       |                      | S         | Z | D | UL | VDE | SEV | IMQ | UL |                            | CSA           |
| 0.0010            | 4.5                     | 9.5  | 13.0 | 10.0 | 800                          | 1600       | 700          | 0.9         | 55.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4100M |
| 0.0015            | 4.5                     | 9.5  | 13.0 | 10.0 | 800                          | 1600       | 700          | 0.9         | 45.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4150M |
| 0.0022            | 4.5                     | 9.5  | 13.0 | 10.0 | 800                          | 1600       | 700          | 0.9         | 38.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4220M |
| 0.0033            | 4.5                     | 9.5  | 13.0 | 10.0 | 800                          | 1600       | 700          | 0.9         | 32.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4330M |
| 0.0047            | 4.5                     | 9.5  | 13.0 | 10.0 | 800                          | 1600       | 700          | 0.9         | 27.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4470M |
| 0.0068            | 4.5                     | 10.5 | 13.0 | 10.0 | 800                          | 1600       | 700          | 1.1         | 22.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MA4680M |
| 0.010             | 5.5                     | 10.5 | 18.0 | 15.0 | 500                          | 1000       | 600          | 1.5         | 15.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5100M |
| 0.015             | 5.5                     | 11.5 | 18.0 | 15.0 | 500                          | 1000       | 600          | 1.6         | 12.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5150M |
| 0.022             | 5.5                     | 11.5 | 18.0 | 15.0 | 500                          | 1000       | 600          | 1.6         | 10.0                  | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5220M |
| 0.033             | 5.5                     | 13.0 | 18.0 | 15.0 | 500                          | 1000       | 600          | 1.9         | 8.4                   | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5330M |
| 0.047             | 7.5                     | 12.5 | 18.0 | 15.0 | 400                          | 800        | 400          | 2.3         | 6.5                   | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5470M |
| 0.068             | 7.5                     | 15.0 | 18.0 | 15.0 | 400                          | 600        | 400          | 2.9         | 4.7                   | 1200                 | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB5680M |
| 0.10              | 8.5                     | 17.0 | 18.0 | 15.0 | 250                          | 400        | 400          | 3.6         | 4.5                   | 600                  | √         | √ | √ | √  | √   | √   | √   | √  | √                          | PME285MB6100M |

APPROVALS/REFERENCE DOCUMENTS

| Country           | Specification                     | Approval reference |
|-------------------|-----------------------------------|--------------------|
| S = Sweden        | EN 132400                         | 9913230/01         |
| N = Norway        | EN 132400                         | P99100775          |
| D = Denmark       | EN 132400                         | DK99-01442         |
| FI = Finland      | EN 132400                         | 207513             |
| VDE = Germany     | EN 132400                         | 121167             |
| SEV = Switzerland | EN 132400                         | 99.7 70302.01      |
| IMQ = Italy       | EN 132400                         | V 4756             |
| UL = USA          | UL 1283 (U <sub>R</sub> =250 VAC) | E 100117           |
|                   | UL 1414 (U <sub>R</sub> =250 VAC) | E 73869            |
| CSA = Canada      | C 22.2 No. 1                      | 53108              |

MARKING

- RIFA
- RIFA article code
- Rated capacitance
- Rated voltage
- X2
- SH, for self healing
- Climatic category according to IEC 60068-1, appendix A
- Passive flammability class
- Approval marks
- Manufacturing code (year, month)

ORDERING INFORMATION

| Article code   |   |
|--|---|
| <b>1st block</b><br>See article table<br>Pos. 13, capacitance tolerance code:<br>M = ± 20% | <b>2nd block</b><br>Options:<br>Short leads: e.g. 6 mm, add R06 in pos. 14–16.<br>Reel taped: add T0 or T1 in pos. 14–15. |
| <b>P M E 2 8 5 M B 5 2 2 0 M</b>   | <b>R 0 6</b>  |
| 1 2 3 4 5 6 7 8 9 10 11 12 13  | 14 15 16 17 18 19 20  |

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.