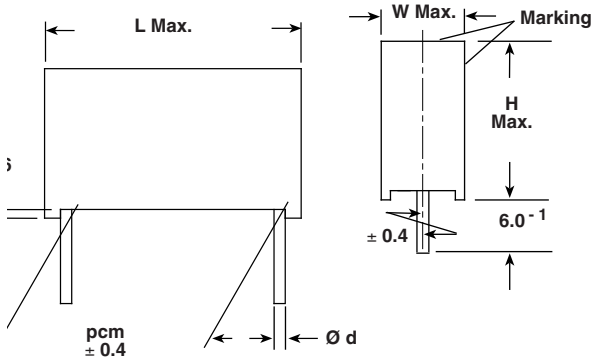


# Double Metallized Polypropylene Film Capacitor

## Radial AC and Pulse Capacitor

Dimensions in millimeters



| W      | Ø d |
|--------|-----|
| < 16.0 | 0.8 |
| ≥ 16.0 | 1.0 |

### MAIN APPLICATIONS

High voltage, high current and high pulse operations, deflection circuits in TV sets (S-correction and fly-back tuning). Protection circuits in SMPS's. Snubber and electronic ballast circuits. Input and output filtering in SPS designs, storage, timing and integrating circuits.

### MARKING

Manufacturer's logo/type/C-value/rated voltage/tolerance/date of manufacture

### DIELECTRIC

Polypropylene film

### ELECTRODES

Vacuum deposited aluminum

### COATING

Flame retardant plastic case (UL-class 94 V-0), blue, epoxy resin sealed

### CONSTRUCTION

Extended double-sided metallized polyester film, internal series connection, single-sided metallized polypropylene film (refer to general information)

### LEADS

Tinned wire

### IEC TEST CLASSIFICATION

55/100/56, according to IEC 60068

### MAXIMUM PULSE RISE TIME

| PCM<br>(mm) | Maximum Pulse Rise Time $d_v/d_t$ [V/μs] |          |          |          |
|-------------|------------------------------------------|----------|----------|----------|
|             | 630 VDC                                  | 1000 VDC | 1600 VDC | 2000 VDC |
| 15          | 3430                                     | 6600     | 11100    | —        |
| 22.5        | 2120                                     | 2800     | 3800     | 6200     |
| 27.5        | 1524                                     | 2000     | 2680     | 4200     |
| 37.5        | 980                                      | 1280     | 1690     | 2600     |

If the maximum pulse voltage is less than the rated voltage higher  $d_v/d_t$  values can be permitted.

### FEATURES

Product is completely lead (Pb)-free  
Product is RoHS-compliant

### OPERATING TEMPERATURE RANGE

- 55°C to + 100°C

### CAPACITANCE RANGE

1000pF to 0.68μF

### CAPACITANCE TOLERANCES

± 20% (M), ± 10% (K), ± 5% (J)

### RATED VOLTAGES ( $U_R$ ):

630 VDC, 1000 VDC, 1600 VDC, 2000 VDC

### PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz

400 VAC, 600 VAC, 650 VAC, 700 VAC

### TEST VOLTAGE (ELECTRODE/ELECTRODE)

1.6 x  $U_R$  for 2 s

### INSULATION RESISTANCE

Measured at 100 VDC after one minute

For  $C \leq 0.33\mu\text{F}$ :

100,000 MΩ minimum value

### TIME CONSTANT

Measured at 100 VDC after one minute

For  $C > 0.33\mu\text{F}$ :

30,000 s minimum value

### TEMPERATURE COEFFICIENT

- 250 x 10<sup>-6</sup>/°C (typical value)

### CAPACITANCE DRIFT

Up to + 40°C, ± 0.5% for a period of two years

### DERATING FOR DC AND AC CATEGORY VOLTAGE $U_C$

At + 85°C:  $U_C = 1.0 U_R$

At + 100°C:  $U_C = 0.7 U_R$

### SELF INDUCTANCE

~ 6 nH measured with 2mm long leads

### PULL TEST ON LEADS

≥ 30 N in direction of leads according to IEC 60068-2-21

### RELIABILITY

Operational life > 300,000 h

Failure rate < 5 FIT (40°C and 0.5 x  $U_R$ )

For further details, please refer to the general information available at [www.vishay.com/doc?26033](http://www.vishay.com/doc?26033).



**RoHS**  
COMPLIANT

DISSIPATION FACTOR TAN  $\delta$ 

| MEASURED AT    | $C \leq 0.1\mu\text{F}$ | $0.1\mu\text{F} < C \leq 1.0\mu\text{F}$ |
|----------------|-------------------------|------------------------------------------|
| 1kHz           | $0.3 \times 10^{-3}$    | $0.3 \times 10^{-3}$                     |
| 10kHz          | $0.4 \times 10^{-3}$    | $0.4 \times 10^{-3}$                     |
| 100kHz         | $1.5 \times 10^{-3}$    | —                                        |
| Maximum values |                         |                                          |

| CAPACITANCE         | CAPACITANCE CODE | VOLTAGE CODE 63<br>630 VDC/400 VAC |      |      |      | VOLTAGE CODE 10<br>1000 VDC/600 VAC |      |      |      | VOLTAGE CODE 13<br>1600 VDC/650 VAC |      |      |      | VOLTAGE CODE 20<br>2000 VDC/700 VAC |      |      |      |
|---------------------|------------------|------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|-------------------------------------|------|------|------|
|                     |                  | W                                  | H    | L    | PCM  | W                                   | H    | L    | PCM  | W                                   | H    | L    | PCM  | W                                   | H    | L    | PCM  |
| 1000pF              | - 210            | —                                  | —    | —    | —    | —                                   | —    | —    | —    | 5.5                                 | 10.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 |
| 1500pF              | - 215            | —                                  | —    | —    | —    | —                                   | —    | —    | —    | 5.5                                 | 10.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 |
| 2200pF              | - 222            | —                                  | —    | —    | —    | —                                   | —    | —    | —    | 5.5                                 | 10.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 |
| 3300pF              | - 233            | —                                  | —    | —    | —    | 5.5                                 | 10.5 | 18.0 | 15   | 6.5                                 | 12.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 |
| 4700pF              | - 247            | —                                  | —    | —    | —    | 5.5                                 | 10.5 | 18.0 | 15   | 7.5                                 | 13.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 |
| 6800pF              | - 268            | 5.5                                | 10.5 | 18.0 | 15   | 6.5                                 | 12.5 | 18.0 | 15   | 8.5                                 | 14.5 | 18.0 | 15   | 7.5                                 | 15.5 | 26.5 | 22.5 |
| 0.01 $\mu\text{F}$  | - 310            | 5.5                                | 10.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 | 6.5                                 | 14.5 | 26.5 | 22.5 | 8.5                                 | 16.5 | 26.5 | 22.5 |
| 0.015 $\mu\text{F}$ | - 315            | 6.5                                | 12.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 | 7.5                                 | 15.5 | 26.5 | 22.5 | 10.5                                | 18.5 | 26.5 | 22.5 |
| 0.022 $\mu\text{F}$ | - 322            | 7.5                                | 13.5 | 18.0 | 15   | 6.5                                 | 14.5 | 26.5 | 22.5 | 8.5                                 | 16.5 | 26.5 | 22.5 | 11.5                                | 20.5 | 31.5 | 27.5 |
| 0.033 $\mu\text{F}$ | - 333            | 8.5                                | 14.5 | 18.0 | 15   | 7.5                                 | 15.5 | 26.5 | 22.5 | 10.5                                | 18.5 | 26.5 | 22.5 | 13.5                                | 23.5 | 31.5 | 27.5 |
| 0.047 $\mu\text{F}$ | - 347            | 7.5                                | 15.5 | 26.5 | 22.5 | 10.5                                | 18.5 | 26.5 | 22.5 | 11.5                                | 20.5 | 31.5 | 27.5 | 15.0                                | 24.5 | 31.5 | 27.5 |
| 0.068 $\mu\text{F}$ | - 368            | 8.5                                | 16.5 | 26.5 | 22.5 | 11.0                                | 21.0 | 26.5 | 22.5 | 11.5                                | 20.5 | 31.5 | 27.5 | 16.5                                | 29.5 | 31.5 | 27.5 |
| 0.1 $\mu\text{F}$   | - 410            | 10.5                               | 18.5 | 26.5 | 22.5 | 11.5                                | 20.5 | 31.5 | 27.5 | 15.0                                | 24.5 | 31.5 | 27.5 | 16.0                                | 28.5 | 41.5 | 37.5 |
| 0.15 $\mu\text{F}$  | - 415            | 11.5                               | 20.5 | 31.5 | 27.5 | 13.5                                | 23.5 | 31.5 | 27.5 | 14.5                                | 24.5 | 41.5 | 37.5 | —                                   | —    | —    | —    |
| 0.22 $\mu\text{F}$  | - 422            | 13.5                               | 23.5 | 31.5 | 27.5 | 16.5                                | 29.5 | 31.5 | 27.5 | 16.0                                | 28.5 | 41.5 | 37.5 | —                                   | —    | —    | —    |
| 0.33 $\mu\text{F}$  | - 433            | 15.0                               | 24.5 | 31.5 | 27.5 | —                                   | —    | —    | —    | —                                   | —    | —    | —    | —                                   | —    | —    | —    |
| 0.47 $\mu\text{F}$  | - 447            | 14.5                               | 24.5 | 41.5 | 37.5 | —                                   | —    | —    | —    | —                                   | —    | —    | —    | —                                   | —    | —    | —    |
| 0.68 $\mu\text{F}$  | - 468            | 18.0                               | 32.5 | 41.5 | 37.5 | —                                   | —    | —    | —    | —                                   | —    | —    | —    | —                                   | —    | —    | —    |

Further C-values upon request.

## RECOMMENDED PACKAGING

| LETTER CODE | TYPE OF PACKAGING | HEIGHT (H)<br>(mm) | REEL DIAMETER<br>(mm) | ORDERING CODE<br>EXAMPLES | PCM<br>15 | PCM<br>22.5 - 27.5 | PCM<br>37.5 |
|-------------|-------------------|--------------------|-----------------------|---------------------------|-----------|--------------------|-------------|
| D           | AMMO              | 16.5               | S*                    | MKP 1846-310/635-D        | X         | —                  | —           |
| G           | AMMO              | 18.5               | S*                    | MKP 1846-310/635-G        | X         | —                  | —           |
| F           | REEL              | 16.5               | 350                   | MKP 1846-310/635-F        | X         | —                  | —           |
| W           | REEL              | 18.5               | 350                   | MKP 1846-310/635-W        | X         | —                  | —           |
| V           | REEL              | 18.5               | 500                   | MKP 1846-410/105-V        | X         | X                  | —           |
| G           | AMMO              | 18.5               | L*                    | MKP 1846-410/105-G        | —         | X                  | —           |
| —           | BULK              | —                  | —                     | MKP 1846-422-135          | X         | X                  | X           |

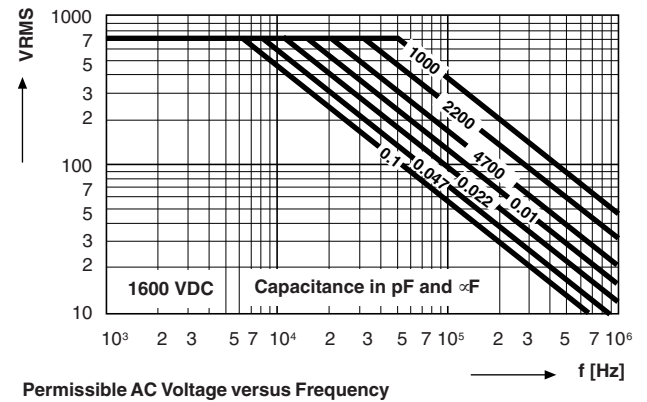
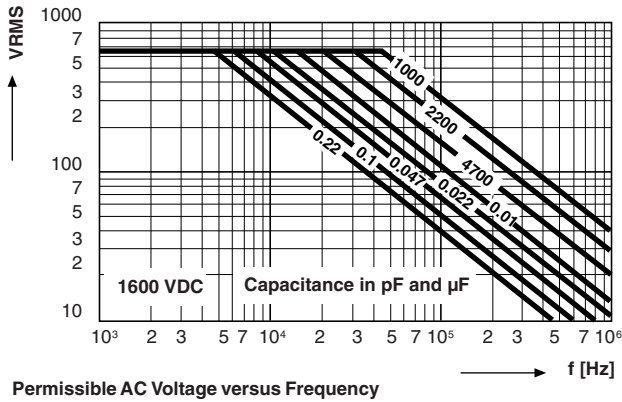
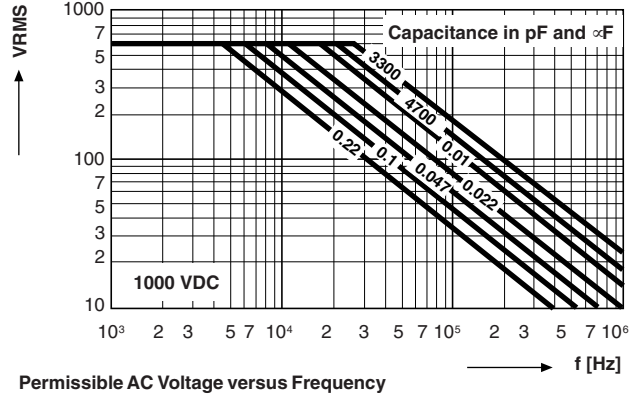
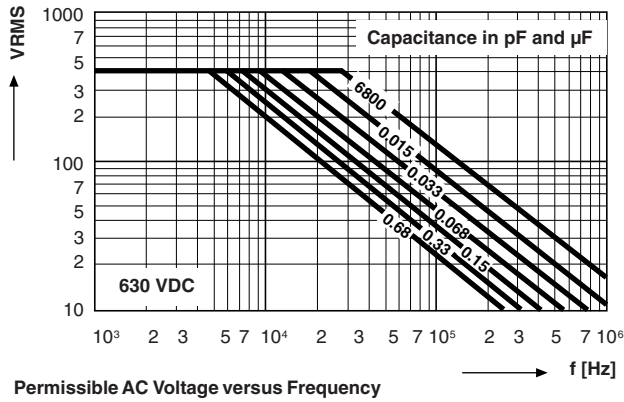
\*S = box size 55 x 210 x 340mm (W x H x L)

\*L = box size 60 x 360 x 510mm (W x H x L)



Double Metallized Polypropylene Film Capacitor  
Radial AC and Pulse Capacitor

Vishay Roederstein





## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.