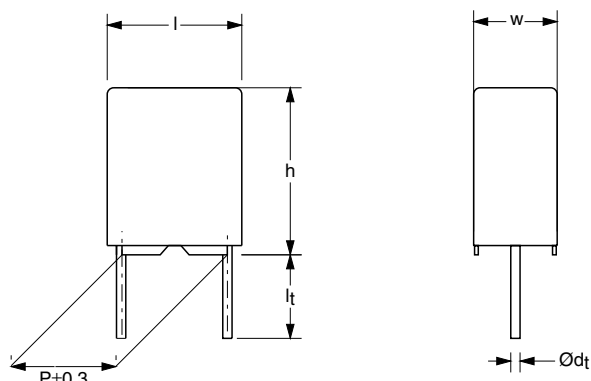


## Metallized Polypropylene Filter Film Capacitors

### MKP Radial Potted Type

### for Surge Voltage Applications



Dimensions in mm

#### APPLICATIONS

Low losses due to low contact resistance and low loss dielectric result in applications where high frequency occur or high stability is preferred. Their small dimensions make them suitable for circuits with high packaging density.

#### MARKING

C-value; rated voltage; tolerance; code for manufacturer; year and week of manufacture; manufacturers type designation

#### DIELECTRIC

Polypropylene film

#### ELECTRODES

Vacuum deposited aluminum

#### ENCAPSULATION

Flame retardant plastic case and epoxy resin (UL-class 94 V-0)

#### CONSTRUCTION

Wound mono construction

#### LEADS

Tinned wire

#### CAPACITANCE RANGE (E24 SERIES)

0.001 to 0.047  $\mu$ F

#### FEATURES

7.5 and 10 mm lead pitch. Supplied loose in box and ammpack. Withstand surge voltages up to 1.5 kV.

Lead (Pb)-free product

RoHS-compliant product

#### CAPACITANCE TOLERANCE

$\pm 5 \%$ ;  $\pm 2 \%$

#### RATED (DC) VOLTAGE

630 V

#### RATED (AC) VOLTAGE

160 V

#### RATED PEAK-TO-PEAK VOLTAGE

450 V

#### CLIMATIC CATEGORY

55/085/56

#### RATED TEMPERATURE (DC)

85 °C

#### RATED TEMPERATURE (AC)

85 °C

#### MAXIMUM APPLICATION TEMPERATURE

85 °C

#### REFERENCE SPECIFICATIONS

IEC 60384-16

#### PERFORMANCE GRADE

Grade 1 (long life)

#### STABILITY GRADE

Grade 1

#### DETAIL SPECIFICATION

For more detailed data and test requirements contact:  
[filmcaps.roeselare@vishay.com](mailto:filmcaps.roeselare@vishay.com)



**RoHS**  
COMPLIANT



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**COMPOSITION OF CATALOG NUMBER**

| TYPE AND PITCHES |         |
|------------------|---------|
| 422              | 7.5 mm  |
|                  | 10.0 mm |

| CAPACITANCE<br>(numerically) |
|------------------------------|
|------------------------------|

| MULTIPLIER<br>(nF) |   |
|--------------------|---|
| 0.01               | 2 |
| 0.1                | 3 |

Example:

103 = 100 x 1 = 100 nF

|       |     |    |    |   |
|-------|-----|----|----|---|
| 2222  | 422 | XX | XX | X |
| BFC2* | 422 | XX | XX | X |

\* Use this partnumber for those with access to the Vishay's SAP system and Partners website within the Americas

| TYPE | PACKAGING    | LEAD CONFIGURATION                    | PREFERRED TYPES |            |
|------|--------------|---------------------------------------|-----------------|------------|
|      |              |                                       | C-TOL           | 630 V      |
| 422  | Ammopack     | H = 18.5 mm; P <sub>0</sub> = 12.7 mm | ± 2 %           | 1          |
|      |              |                                       |                 | ON REQUEST |
| 422  | Ammopack     | H = 18.5 mm; P <sub>0</sub> = 12.7 mm | ± 5 %           | 0          |
|      | Loose in box | lead length 4.0 +1.0/-0.5 mm          | ± 5 %           | 3          |
|      |              |                                       | ± 2 %           | 4          |

**SPECIFIC REFERENCE DATA**

| DESCRIPTION  | VALUE                  |                         |
|--|------------------------|-------------------------|
| Tangent of loss angle:<br>C ≤ 0.0047 μF                              | at 10 kHz              | at 100 kHz              |
|  | ≤ 5 × 10 <sup>-4</sup> | ≤ 15 × 10 <sup>-4</sup> |
| Rated voltage pulse slope (dU/dt) <sub>R</sub> at 630 V (DC)         | 50 V/μs                |                         |
| R between leads at 500 V; 1 minute                                   | > 100000 MΩ            |                         |
| R between interconnected leads and case at 500 V; 1 minute           | > 100000 MΩ            |                         |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s | 1000 V; 1 minute       |                         |
| Withstanding (DC) voltage between leads and case                     | 2840 V; 1 minute       |                         |

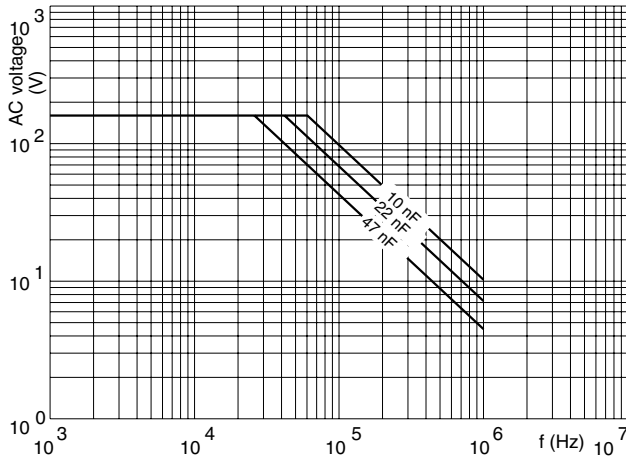
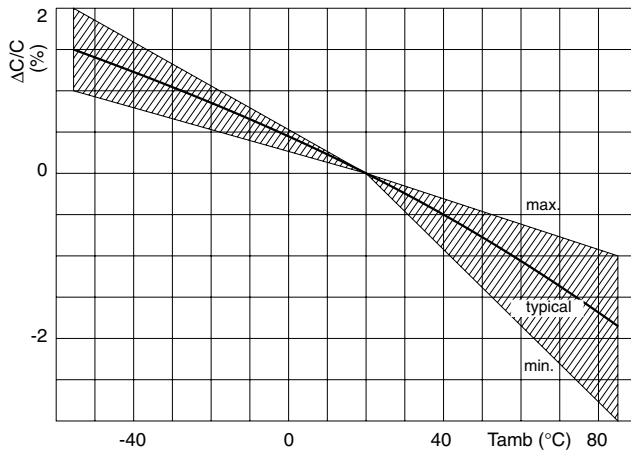
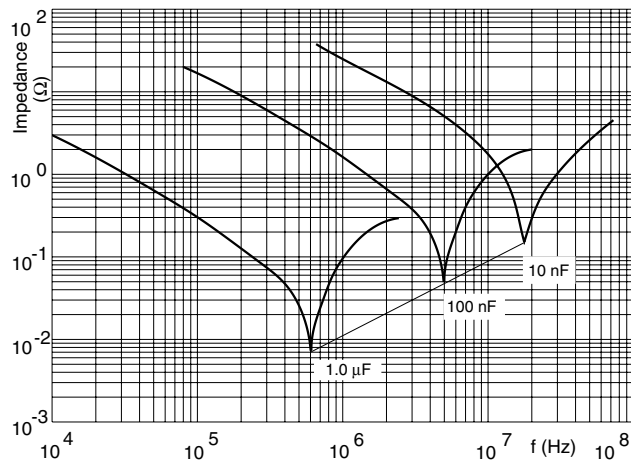
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$U_{Rdc} = 630 \text{ V}$ ;  $U_{Rac} = 160 \text{ V}$ ;  $U_{p-p} = 450 \text{ V}$

| C<br>(E 24)<br>(μF)   | DIMENSIONS<br>b × h × l<br>(mm) | MASS<br>(g) | CATALOGUE NUMBER AND PACKAGING   |      |                         |
|---|---------------------------------|-------------|--|------|-------------------------|
|   |                                 |             | AMMOPACK   |      | LOOSE IN BOX            |
|   |                                 |             | H = 18.5 mm  |      | It = 4.0 + 1.0/– 0.5 mm |
|   |                                 |             | C-tol = ± 2 %  | SPQ  | SPQ                     |
|   |                                 |             | last 5 digits of<br>catalog number   |      |                         |
| Pitch = 7.5 ± 0.4 mm; d <sub>t</sub> = 0.50 ± 0.05 mm   |                                 |             |  |      |                         |
| 0.001<br>0.0011<br>0.0012<br>0.0013<br>0.0015<br>0.0016<br>0.0018<br>0.002<br>0.0022<br>0.0024<br>0.0027      | 4.0 × 9.0 × 10.0                | 0.50        | 11002<br>11102<br>11202<br>11302<br>11502<br>11602<br>11802<br>12002<br>12202<br>12402<br>12702          | 1250 | 1500                    |
| 0.003<br>0.0033<br>0.0036<br>0.0039   | 5.0 × 10.5 × 10.0               | 0.90        | 13002<br>13302<br>13602<br>13902   | 1000 | 1000                    |
| 0.0043<br>0.0047  | 6.0 × 11.5 × 10.0               | 1.0         | 14302<br>14702   | 750  | 750                     |
| Pitch = 10.0 ± 0.4 mm; d <sub>t</sub> = 0.60 ± 0.06 mm  |                                 |             |  |      |                         |
| 0.0051<br>0.0056<br>0.0062<br>0.0068<br>0.0075<br>0.0082<br>0.01<br>0.011<br>0.012<br>0.013<br>0.015<br>0.016 | 4.0 × 10.0 × 12.5               | 0.60        | 15102<br>15602<br>16202<br>16802<br>17502<br>18202<br>11003<br>11103<br>11203<br>11303<br>11503<br>11603 | 750  | 1000                    |
| 0.018<br>0.02<br>0.022<br>0.024   | 5.0 × 11.0 × 12.5               | 0.85        | 11803<br>12003<br>12203<br>12403   | 600  | 1000                    |
| 0.027<br>0.03<br>0.033<br>0.036<br>0.039<br>0.043<br>0.047  | 6.0 × 12.0 × 12.5               | 1.10        | 12703<br>13003<br>13303<br>13603<br>13903<br>14303<br>14703  | 500  | 750                     |



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**MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY****CAPACITANCE****IMPEDANCE**



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