



**THE DATASHEET OF
BFC241641004**



Metallized Polypropylene Film Capacitors MKP Radial Potted Type



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 1.2 μ F

FEATURES

5, 10 and 15 mm lead pitch. Supplied loose in box, in ammpack and taped on reel. Intermediate values are available of the E96 series

Lead (Pb)-free product

RoHS-compliant product

CAPACITANCE TOLERANCE

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

RATED (DC) VOLTAGE

63 V; 160 V; 250 V; 400 V; 630 V

RATED (AC) VOLTAGE

25 V; 63 V; 100 V; 125 V; 160 V

RATED PEAK-TO-PEAK VOLTAGE

70 V; 180 V; 280 V; 350 V; 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



RoHS
COMPLIANT

COMPOSITION OF CATALOG NUMBER

| TYPE AND PITCHES | |
|------------------|------------------|
| 416 | 5.0/10.0/15.0 mm |
| 417 | 5.0/10.0/15.0 mm |
| 418 | 5.0/10.0/15.0 mm |
| 419 | 5.0/10.0/15.0 mm |
| 420 | 5.0/10.0/15.0 mm |

CAPACITANCE
(numerically)

| MULTIPLIER (nF) | |
|--------------------|---|
| 0.01 | 2 |
| 0.1 | 3 |
| 1 | 4 |

| | | | | |
|-------|-----|----|----|---|
| 2222 | 4.. | XX | XX | X |
| BFC2* | 4.. | XX | XX | X |

Example:
1004 = 100 x 1 = 100 nF

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

| TYPE | PACKAGING | PITCH (mm) | LEAD CONFIGURATION | PREFERRED TYPES | | | | | |
|------|-----------------|---------------|---------------------------------------|-------------------|------|-------|-------|-------|-------|
| | | | | C-TOL | 63 V | 160 V | 250 V | 400 V | 630 V |
| 416 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 2 % | 1 | | | | |
| | Loose in box | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | 7 | | | | |
| 417 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 2 % | | 1 | | | |
| | Loose in box | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | 7 | | | |
| 418 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 2 % | | | 1 | | |
| | Loose in box | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | 7 | | |
| 419 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 2 % | | | | 1 | |
| | Loose in box | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | | 7 | |
| 420 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 2 % | | | | | 1 |
| | Loose in box | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | | | 7 |
| | | | | ON REQUEST | | | | | |
| 416 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 5 % | 0 | | | | |
| | Loose in box | 5/10 | lead length 4.0 + 1.0/- 0.5 mm | ± 5 % | 3 | | | | |
| | | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | 4 | | | | |
| 417 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 5 % | | 0 | | | |
| | Loose in box | 5/10 | lead length 4.0 + 1.0/- 0.5 mm | ± 5 % | | 3 | | | |
| | | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | 4 | | |
| 418 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 5 % | | | 0 | | |
| | Loose in box | 5/10 | lead length 4.0 + 1.0/- 0.5 mm | ± 5 % | | | 3 | | |
| | | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | | 4 | |
| 419 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 5 % | | | | 0 | |
| | Loose in box | 5/10 | lead length 4.0 + 1.0/- 0.5 mm | ± 5 % | | | | 3 | |
| | | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | | | 4 |
| 420 | Taped; see note | 5/10/15 | H = 18.5 mm; P ₀ = 12.7 mm | ± 5 % | | | | | 0 |
| | Loose in box | 5/10 | lead length 4.0 + 1.0/- 0.5 mm | ± 5 % | | | | | 3 |
| | | 15 | lead length 3.5 ± 0.3 mm | ± 2 % | | | | | |
| | | | | ± 5 % | | | | | 6 |

Note:

Pitch = 5 and 10 mm: taped on ammpack

Pitch = 15 mm: taped on reel with diameter = 356 mm



Metallized Polypropylene Film Capacitors Vishay BCcomponents
MKP Radial Potted Type

SPECIFIC REFERENCE DATA

| DESCRIPTION | VALUE | | | | |
|---|-------------------------|------------------|-------------------------|------------------|------------------|
| | at 10 kHz | | at 100 kHz | | |
| Tangent of loss angle: | | | | | |
| C ≤ 0.0091 μF | ≤ 5 × 10 ⁻⁴ | | ≤ 10 × 10 ⁻⁴ | | |
| 0.0091 μF < C ≤ 0.027 μF | ≤ 5 × 10 ⁻⁴ | | ≤ 15 × 10 ⁻⁴ | | |
| 0.027 μF < C ≤ 0.075 μF | ≤ 5 × 10 ⁻⁴ | | ≤ 20 × 10 ⁻⁴ | | |
| 0.075 μF < C ≤ 0.11 μF | ≤ 5 × 10 ⁻⁴ | | ≤ 25 × 10 ⁻⁴ | | |
| 0.11 μF < C ≤ 0.18 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 30 × 10 ⁻⁴ | | |
| 0.18 μF < C ≤ 0.27 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 35 × 10 ⁻⁴ | | |
| 0.27 μF < C ≤ 0.39 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 40 × 10 ⁻⁴ | | |
| 0.39 μF < C ≤ 0.56 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 45 × 10 ⁻⁴ | | |
| 0.56 μF < C ≤ 0.75 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 50 × 10 ⁻⁴ | | |
| 0.75 μF < C ≤ 1.1 μF | ≤ 10 × 10 ⁻⁴ | | ≤ 60 × 10 ⁻⁴ | | |
| Rated voltage pulse slope (dU/dt) _R : | at 63 V (DC) | at 100 V (DC) | at 250 V (DC) | at 400 V (DC) | at 630 V (DC) |
| P = 5 mm | 50 V/μs | 50 V/μs | 50 V/μs | 50 V/μs | 50 V/μs |
| P = 10 mm | 20 V/μs | 20 V/μs | 20 V/μs | 20 V/μs | 50 V/μs |
| P = 15 mm | 50 V/μs | 50 V/μs | 50 V/μs | 50 V/μs | 50 V/μs |
| R between leads, for C ≤ 0.33 μF: | | | | | |
| at 50 V; 1 minute | > 100000 MΩ | | | | |
| at 100 V; 1 minute | | > 100000 MΩ | > 100000 MΩ | > 100000 MΩ | > 100000 MΩ |
| RC between leads, for C > 0.33 μF at 10 V; 1 minute | > 30000 s | >30000 s | >30000 s | >30000 s | |
| R between interconnecting leads and casing; 50 V; 1 minute | > 100000 MΩ | > 100000 MΩ | > 100000 MΩ | > 100000 MΩ | > 100000 MΩ |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s | 100 V; 1 minute | 260 V; 1 minute | 400 V; 1 minute | 640 V; 1 minute | 1000 V; 1 minute |
| Withstanding (DC) voltage between leads and case | 2840 V; 1 minute | 2840 V; 1 minute | 2840 V; 1 minute | 2840 V; 1 minute | 1260 V; 1 minute |

MKP 416 to 420



Vishay BCcomponents Metallized Polypropylene Film Capacitors MKP Radial Potted Type

$U_{Rdc} = 63 V$; $U_{Rac} = 25 V$; $U_{p-p} = 70 V$

| C (E 24) (μF) | DIMENSIONS $w \times h \times l$ (mm) | MASS (g) | CATALOG NUMBER 2222 416 AND PACKAGING | | | | | | | |
|--|---|---------------------------------------|---|-------|----------------------------|------|--|------|----------------------|-----|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ |
| last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | | | | | | | |
| Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm | | | | | | | | | | |
| 0.036 | 4.5 × 9.0 × 7.2 | 0.45 | 13603 | 1000 | 43603 | 2000 | | | | |
| 0.039 | | | 13903 | | 43903 | | | | | |
| 0.043 | | | 14303 | | 44303 | | | | | |
| 0.047 | | | 14703 | | 44703 | | | | | |
| 0.051 | 6.0 × 11.0 × 7.2 | 0.60 | 15103 | 750 | 45103 | 1500 | | | | |
| 0.056 | | | 15603 | | 45603 | | | | | |
| 0.062 | | | 16203 | | 46203 | | | | | |
| 0.068 | | | 16803 | | 46803 | | | | | |
| 0.075 | | | 17503 | | 47503 | | | | | |
| 0.082 | | | 18203 | | 48203 | | | | | |
| 0.091 | | | 19103 | | 49103 | | | | | |
| 0.1 | | | 11004 | | 41004 | | | | | |
| 0.11 | | | 11104 | | 41104 | | | | | |
| 0.12 | 11204 | 41204 | | | | | | | | |
| Pitch = 10.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.13 | 5.0 × 11.0 × 12.5 | 0.85 | 11304 | 600 | 41304 | 1000 | | | | |
| 0.15 | | | 11504 | | 41504 | | | | | |
| 0.16 | 6.0 × 12.0 × 12.5 | 1.10 | 11604 | 500 | 41604 | 750 | | | | |
| 0.18 | | | 11804 | | 41804 | | | | | |
| 0.20 | | | 12004 | | 42004 | | | | | |
| 0.22 | | | 12204 | | 42204 | | | | | |
| 0.24 | | | 12404 | | 42404 | | | | | |
| 0.27 | | | 12704 | | 42704 | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.3 | 6.0 × 12.0 × 17.5 | 1.4 | | | 13004 | 900 | 73004 | 1000 | | |
| 0.33 | | | 13304 | 73304 | | | | | | |
| 0.36 | | | 13604 | 73604 | | | | | | |
| 0.39 | | | 13904 | 73904 | | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm | | | | | | | | | | |
| 0.43 | 7.0 × 13.5 × 17.5 | 1.9 | | | 14304 | 800 | 74304 | 750 | | |
| 0.47 | | | 14704 | 74704 | | | | | | |
| 0.51 | | | 15104 | 75104 | | | | | | |
| 0.56 | | | 15604 | 75604 | | | | | | |
| 0.62 | 8.5 × 15.0 × 17.5 | 2.6 | | | 16204 | 650 | 76204 | 750 | | |
| 0.68 | | | 16804 | 76804 | | | | | | |
| 0.75 | | | 17504 | 77504 | | | | | | |
| 0.82 | | | 18204 | 78204 | | | | | | |
| 0.91 | 10.0 × 16.5 × 17.5 | 3.1 | | | 19104 | 600 | 79104 | 500 | | |
| 1.0 | | | 11005 | 71005 | | | | | | |
| 1.1 | | | 11105 | 71105 | | | | | | |



Metallized Polypropylene Film Capacitors Vishay BCcomponents
MKP Radial Potted Type

$U_{Rdc} = 160\text{ V}$; $U_{Rac} = 63\text{ V}$; $U_{p-p} = 180\text{ V}$

| C (E 24) (μF) | DIMENSIONS $w \times h \times l$ (mm) | MASS (g) | CATALOG NUMBER 2222 417 AND PACKAGING | | | | | | | |
|--|---|---------------------------------------|---|-------|----------------------------|------|--|------|----------------------|-----|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ |
| last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | | | | | | | |
| Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm | | | | | | | | | | |
| 0.024 | 4.5 × 9.0 × 7.2 | 0.45 | 12403 | 1000 | 42403 | 2000 | | | | |
| 0.027 | | | 12703 | | 42703 | | | | | |
| 0.03 | | | 13003 | | 43003 | | | | | |
| 0.033 | | | 13303 | | 43303 | | | | | |
| 0.036 | 6.0 × 11.0 × 7.2 | 0.60 | 13603 | 750 | 43603 | 1500 | | | | |
| 0.039 | | | 13903 | | 43903 | | | | | |
| 0.043 | | | 14303 | | 44303 | | | | | |
| 0.047 | | | 14703 | | 44703 | | | | | |
| 0.051 | | | 15103 | | 45103 | | | | | |
| 0.056 | | | 15603 | | 45603 | | | | | |
| 0.062 | | | 16203 | | 46203 | | | | | |
| 0.068 | | | 16803 | | 46803 | | | | | |
| Pitch = 10.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.075 | 4.0 × 10.0 × 12.5 | 0.60 | 17503 | 750 | 47503 | 1000 | | | | |
| 0.082 | | | 18203 | | 48203 | | | | | |
| 0.091 | | | 19103 | | 49103 | | | | | |
| 0.1 | | | 11004 | | 41004 | | | | | |
| 0.11 | 5.0 × 11.0 × 12.5 | 0.85 | 11104 | 600 | 41104 | 1000 | | | | |
| 0.12 | | | 11204 | | 41204 | | | | | |
| 0.13 | | | 11304 | | 41304 | | | | | |
| 0.15 | | | 11504 | | 41504 | | | | | |
| 0.16 | 6.0 × 12.0 × 12.5 | 1.10 | 11604 | 500 | 41604 | 750 | | | | |
| 0.18 | | | 11804 | | 41804 | | | | | |
| 0.20 | | | 12004 | | 42004 | | | | | |
| 0.22 | | | 12204 | | 42204 | | | | | |
| 0.24 | | | 12404 | | 42404 | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.27 | 5.0 × 11.0 × 17.5 | 1.2 | | | 12704 | 1100 | 72704 | 1250 | | |
| 0.3 | 6.0 × 12.0 × 17.5 | 1.4 | | | 13004 | 900 | 73004 | 1000 | | |
| 0.33 | | | 13304 | 73304 | | | | | | |
| 0.36 | | | 13604 | 73604 | | | | | | |
| 0.39 | | | 13904 | 73904 | | | | | | |
| | | | | | | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm | | | | | | | | | | |
| 0.43 | 7.0 × 13.5 × 17.5 | 1.9 | | | 14304 | 800 | 74304 | 750 | | |
| 0.47 | | | 14704 | 74704 | | | | | | |
| 0.51 | | | 15104 | 75104 | | | | | | |
| 0.56 | | | 15604 | 75604 | | | | | | |
| 0.62 | 8.5 × 15.0 × 17.5 | 2.6 | | | 16204 | 650 | 76204 | 750 | | |
| 0.68 | | | 16804 | 76804 | | | | | | |
| 0.75 | | | 17504 | 77504 | | | | | | |
| 0.82 | | | 18204 | 78204 | | | | | | |
| 0.91 | 10.0 × 16.5 × 17.5 | 3.1 | | | 19104 | 600 | 79104 | 500 | | |
| 1.0 | | | 11005 | 71005 | | | | | | |
| 1.1 | | | 11105 | 71105 | | | | | | |

MKP 416 to 420



Vishay BCcomponents Metallized Polypropylene Film Capacitors MKP Radial Potted Type

$U_{Rdc} = 250 \text{ V}$; $U_{Rac} = 25 \text{ V}$; $U_{p-p} = 70 \text{ V}$

| C (E 24) (μF) | DIMENSIONS $w \times h \times l$ (mm) | MASS (g) | CATALOG NUMBER 2222 418 AND PACKAGING | | | | | | | |
|--|---|-------------|--|------|--|------|--|------|--|-----|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % last 5 digits of catalog number | SPQ | C-tol = ± 2 % last 5 digits of catalog number | SPQ | C-tol = ± 2 % last 5 digits of catalog number | SPQ | C-tol = ± 2 % last 5 digits of catalog number | SPQ |
| Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm | | | | | | | | | | |
| 0.01 | 3.5 × 8.0 × 7.2 | 0.35 | 11003 | 1500 | 41003 | 3000 | | | | |
| 0.011 | | | 11103 | | 41103 | | | | | |
| 0.012 | | | 11203 | | 41203 | | | | | |
| 0.013 | | | 11303 | | 41303 | | | | | |
| 0.015 | | | 11503 | | 41503 | | | | | |
| 0.016 | 4.5 × 9.0 × 7.2 | 0.45 | 11603 | 1000 | 41603 | 2000 | | | | |
| 0.018 | | | 11803 | | 41803 | | | | | |
| 0.02 | | | 12003 | | 42003 | | | | | |
| 0.022 | | | 12203 | | 42203 | | | | | |
| 0.024 | | | 12403 | | 42403 | | | | | |
| 0.027 | 6.0 × 11.0 × 7.2 | 0.60 | 12703 | 750 | 42703 | 1500 | | | | |
| 0.03 | | | 13003 | | 43003 | | | | | |
| 0.033 | | | 13303 | | 43303 | | | | | |
| 0.036 | | | 13603 | | 43603 | | | | | |
| 0.039 | | | 13903 | | 43903 | | | | | |
| 0.043 | | | 14303 | | 44303 | | | | | |
| Pitch = 10.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.047 | 4.0 × 10.0 × 12.5 | 0.60 | 14703 | 750 | 44703 | 1000 | | | | |
| 0.051 | | | 15103 | | 45103 | | | | | |
| 0.056 | | | 15603 | | 45603 | | | | | |
| 0.062 | | | 16203 | | 46203 | | | | | |
| 0.068 | | | 16803 | | 46803 | | | | | |
| 0.075 | 5.0 × 11.0 × 12.5 | 0.85 | 17503 | 600 | 47503 | 1000 | | | | |
| 0.082 | | | 18203 | | 48203 | | | | | |
| 0.091 | | | 19103 | | 49103 | | | | | |
| 0.1 | 6.0 × 12.0 × 12.5 | 1.10 | 11004 | 500 | 41004 | 750 | | | | |
| 0.11 | | | 11104 | | 41104 | | | | | |
| 0.12 | | | 11204 | | 41204 | | | | | |
| 0.13 | | | 11304 | | 41304 | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.15 | 5.0 × 11.0 × 17.5 | 1.2 | | | 11504 | 1100 | 71504 | 1250 | | |
| 0.16 | | | | | 11604 | | 71604 | | | |
| 0.18 | 6.0 × 12.0 × 17.5 | 1.4 | | | 11804 | 900 | 71804 | 1000 | | |
| 0.2 | | | | | 12004 | | 72004 | | | |
| 0.22 | | | | | 12204 | | 72204 | | | |
| 0.24 | | | | | 12404 | | 72404 | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm | | | | | | | | | | |
| 0.27 | 7.0 × 13.5 × 17.5 | 1.9 | | | 12704 | 800 | 72704 | 750 | | |
| 0.3 | | | | | 13004 | | 73004 | | | |
| 0.33 | | | | | 13304 | | 73304 | | | |
| 0.36 | | | | | 13604 | | 73604 | | | |
| 0.39 | 8.5 × 15.0 × 17.5 | 2.6 | | | 13904 | 650 | 73904 | 750 | | |
| 0.43 | | | | | 14304 | | 74304 | | | |
| 0.47 | | | | | 14704 | | 74704 | | | |
| 0.51 | | | | | 15104 | | 75104 | | | |
| 0.56 | 10.0 × 16.5 × 17.5 | 3.1 | | | 15604 | 600 | 75604 | 500 | | |
| 0.62 | | | | | 16204 | | 76204 | | | |
| 0.68 | | | | | 16804 | | 76804 | | | |



Metallized Polypropylene Film Capacitors Vishay BCcomponents
MKP Radial Potted Type

$U_{Rdc} = 400\text{ V}$; $U_{Rac} = 125\text{ V}$; $U_{p-p} = 350\text{ V}$

| C (E 24) (μF) | DIMENSIONS $w \times h \times l$ (mm) | MASS (g) | CATALOG NUMBER 2222 419 AND PACKAGING | | | | | | | |
|--|---|-------------|---|------|---------------------------------------|------|--|------|---------------------------------------|------|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % | | C-tol = ± 2 % | | C-tol = ± 2 % | | C-tol = ± 2 % | |
| | | | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ |
| Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm | | | | | | | | | | |
| 0.001 | 3.5 × 8.0 × 7.2 | 0.35 | 11002 | 1500 | 41002 | 3000 | | | | |
| 0.0011 | | | 11102 | | 41102 | | | | | |
| 0.0012 | | | 11202 | | 41202 | | | | | |
| 0.0013 | | | 11302 | | 41302 | | | | | |
| 0.0015 | | | 11502 | | 41502 | | | | | |
| 0.0016 | | | 11602 | | 41602 | | | | | |
| 0.0018 | | | 11802 | | 41802 | | | | | |
| 0.002 | | | 12002 | | 42002 | | | | | |
| 0.0022 | | | 12202 | | 42202 | | | | | |
| 0.0024 | | | 12402 | | 42402 | | | | | |
| 0.0027 | | | 12702 | | 42702 | | | | | |
| 0.003 | | | 13002 | | 43002 | | | | | |
| 0.0033 | | | 13302 | | 43302 | | | | | |
| 0.0036 | | | 13602 | | 43602 | | | | | |
| 0.0039 | | | 13902 | | 43902 | | | | | |
| 0.0043 | | | 4.5 × 9.0 × 7.2 | | 0.45 | | 14302 | 1000 | 44302 | 2000 |
| 0.0047 | 14702 | 44702 | | | | | | | | |
| 0.0051 | 15102 | 45102 | | | | | | | | |
| 0.0056 | 15602 | 45602 | | | | | | | | |
| 0.0062 | 16202 | 46202 | | | | | | | | |
| 0.0068 | 16802 | 46802 | | | | | | | | |
| 0.0075 | 17502 | 47502 | | | | | | | | |
| 0.0082 | 18202 | 48202 | | | | | | | | |
| 0.0091 | 19102 | 49102 | | | | | | | | |
| 0.01 | 11003 | 41003 | | | | | | | | |
| 0.011 | 11103 | 41103 | | | | | | | | |
| 0.012 | 11203 | 41203 | | | | | | | | |
| 0.013 | 6.0 × 11.0 × 7.2 | 0.60 | 11303 | 750 | 41303 | 1500 | | | | |
| 0.015 | | | 11503 | | 41503 | | | | | |
| 0.016 | | | 11603 | | 41603 | | | | | |
| 0.018 | | | 11803 | | 41803 | | | | | |
| 0.02 | | | 12003 | | 42003 | | | | | |
| Pitch = 10.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.022 | 4.0 × 10.0 × 12.5 | 0.60 | 12203 | 750 | 42203 | 1000 | | | | |
| 0.024 | | | 12403 | | 42403 | | | | | |
| 0.027 | | | 12703 | | 42703 | | | | | |
| 0.03 | | | 13003 | | 43003 | | | | | |
| 0.033 | | | 13303 | | 43303 | | | | | |
| 0.036 | 5.0 × 11.0 × 12.5 | 0.85 | 13603 | 600 | 43603 | 1000 | | | | |
| 0.039 | | | 13903 | | 43903 | | | | | |
| 0.043 | | | 14303 | | 44303 | | | | | |
| | | | | | | | | | | |

MKP 416 to 420



Vishay BCcomponents Metallized Polypropylene Film Capacitors MKP Radial Potted Type

| C (E 24) (μ F) | DIMENSIONS w × h × l (mm) | MASS (g) | CATALOG NUMBER 2222 419 AND PACKAGING | | | | | | | |
|--|---------------------------------------|---------------------------------------|---|-----|----------------------------|------|--|------|----------------------|-----|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ | C-tol = ± 2 % | SPQ |
| last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | last 5 digits of catalog number | | | | | | | |
| 0.047 | 6.0 × 12.0 × 12.5 | 1.10 | 14703 | 500 | 44703 | 750 | | | | |
| 0.051 | | | 15103 | | 45103 | | | | | |
| 0.056 | | | 15603 | | 45603 | | | | | |
| 0.062 | | | 16203 | | 46203 | | | | | |
| 0.068 | | | 16803 | | 46803 | | | | | |
| | | | | | | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.075 | 5.0 × 11.0 × 17.5 | 1.2 | | | 17503 | 1100 | 77503 | 1250 | | |
| 0.082 | | | | | 18203 | | 78203 | | | |
| 0.091 | 6.0 × 12.0 × 17.5 | 1.4 | | | 19103 | 900 | 79103 | 1000 | | |
| 0.1 | | | | | 11004 | | 71004 | | | |
| 0.11 | | | | | 11104 | | 71104 | | | |
| 0.12 | | | | | 11204 | | 71204 | | | |
| 0.13 | | | | | 11304 | | 71304 | | | |
| | | | | | | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm | | | | | | | | | | |
| 0.15 | 7.0 × 13.5 × 17.5 | 1.9 | | | 11504 | 800 | 71504 | 750 | | |
| 0.16 | | | | | 11604 | | 71604 | | | |
| 0.18 | | | | | 11804 | | 71804 | | | |
| 0.2 | 8.5 × 15.0 × 17.5 | 2.6 | | | 12004 | 650 | 72004 | 750 | | |
| 0.22 | | | | | 12204 | | 72204 | | | |
| 0.24 | | | | | 12404 | | 72404 | | | |
| 0.27 | | | | | 12704 | | 72704 | | | |
| | | | | | | | | | | |
| 0.3 | 10.0 × 16.5 × 17.5 | 3.1 | | | 13004 | 600 | 73004 | 500 | | |
| 0.33 | | | | | 13304 | | 73304 | | | |
| 0.36 | | | | | 13604 | | 73604 | | | |

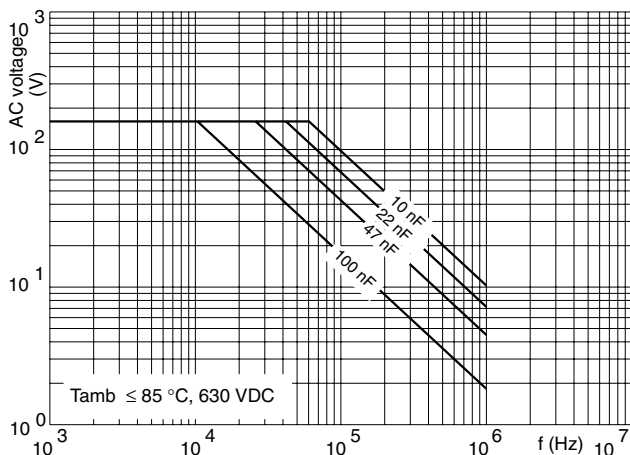
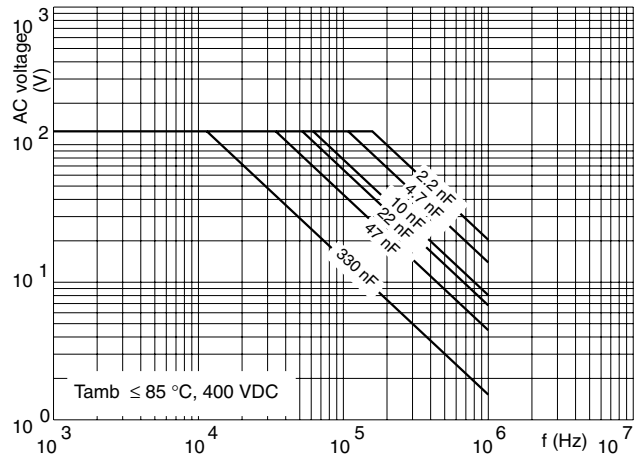
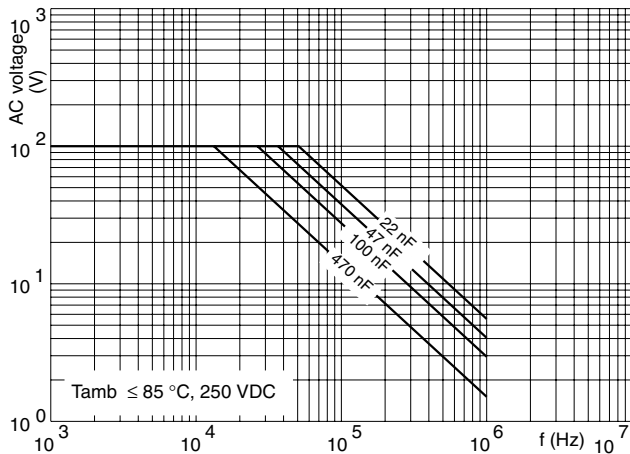
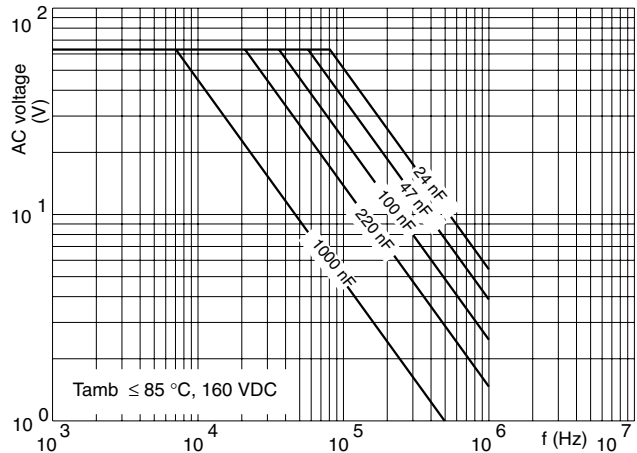
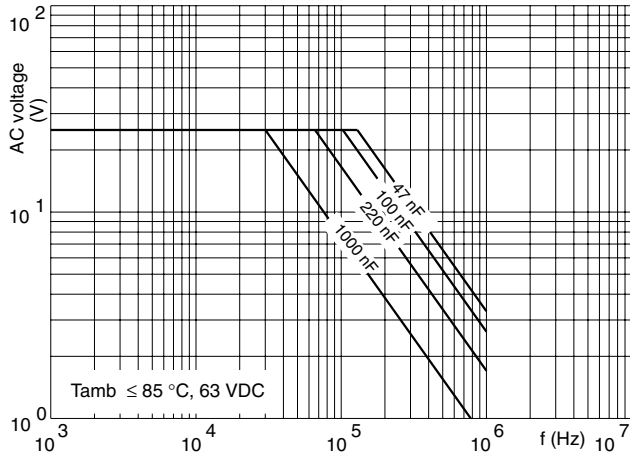


Metallized Polypropylene Film Capacitors Vishay BCcomponents
MKP Radial Potted Type

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

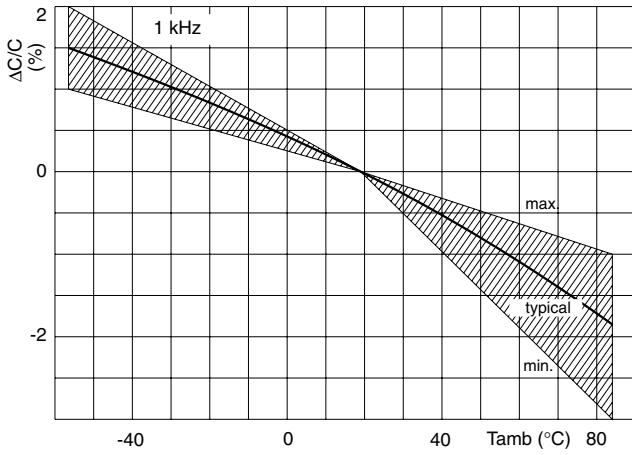
| C (E 24) (μF) | DIMENSIONS $w \times h \times l$ (mm) | MASS (g) | CATALOG NUMBER 2222 420 AND PACKAGING | | | | | | | |
|--|---|-------------|---|------|---------------------------------------|------|--|------|---------------------------------------|-----|
| | | | AMMOPACK | | LOOSE IN BOX | | REEL | | LOOSE IN BOX | |
| | | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 4.0 + 1.0/- 0.5 mm | | H = 18.5 mm; P ₀ = 12.7 mm | | It = 3.5 ± 0.3 mm | |
| | | | C-tol = ± 2 % | | C-tol = ± 2 % | | C-tol = ± 2 % | | C-tol = ± 2 % | |
| | | | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ | last 5 digits of catalog number | SPQ |
| Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm | | | | | | | | | | |
| 0.0015 | 3.5 × 8.0 × 7.2 | 0.35 | 11502 | 1500 | 41502 | 3000 | | | | |
| 0.0016 | | | 11602 | | 41602 | | | | | |
| 0.0018 | | | 11802 | | 41802 | | | | | |
| 0.002 | | | 12002 | | 42002 | | | | | |
| 0.0022 | | | 12202 | | 42202 | | | | | |
| 0.0024 | | | 12402 | | 42402 | | | | | |
| 0.0027 | | | 12702 | | 42702 | | | | | |
| 0.003 | 4.5 × 9.0 × 7.2 | 0.45 | 13002 | 1000 | 43002 | 2000 | | | | |
| 0.0033 | | | 13302 | | 43302 | | | | | |
| 0.0036 | | | 13602 | | 43602 | | | | | |
| 0.0039 | | | 13902 | | 43902 | | | | | |
| 0.0043 | 6.0 × 11.0 × 7.2 | 0.60 | 14302 | 750 | 44302 | 1500 | | | | |
| 0.0047 | | | 14702 | | 44702 | | | | | |
| 0.0051 | | | 15102 | | 45102 | | | | | |
| 0.0056 | | | 15602 | | 45602 | | | | | |
| 0.0062 | | | 16202 | | 46202 | | | | | |
| 0.0068 | | | 16802 | | 46802 | | | | | |
| Pitch = 10.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.01 | 4.0 × 10.0 × 12.5 | 0.60 | 11003 | 750 | 41003 | 1000 | | | | |
| 0.011 | | | 11103 | | 41103 | | | | | |
| 0.012 | | | 11203 | | 41203 | | | | | |
| 0.013 | | | 11303 | | 41303 | | | | | |
| 0.015 | | | 11503 | | 41503 | | | | | |
| 0.016 | | | 11603 | | 41603 | | | | | |
| 0.018 | 5.0 × 11.0 × 12.5 | 0.85 | 11803 | 600 | 41803 | 1000 | | | | |
| 0.02 | | | 12003 | | 42003 | | | | | |
| 0.022 | | | 12203 | | 42203 | | | | | |
| 0.024 | | | 12403 | | 42403 | | | | | |
| 0.027 | 6.0 × 12.0 × 12.5 | 1.10 | 12703 | 500 | 42703 | 750 | | | | |
| 0.03 | | | 13003 | | 43003 | | | | | |
| 0.033 | | | 13303 | | 43303 | | | | | |
| 0.036 | | | 13603 | | 43603 | | | | | |
| 0.039 | | | 13903 | | 43903 | | | | | |
| 0.043 | | | 14303 | | 44303 | | | | | |
| 0.047 | | | 14703 | | 44703 | | | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm | | | | | | | | | | |
| 0.051 | 6.0 × 12.0 × 17.5 | 1.4 | | | 15103 | 900 | 75103 | 1000 | | |
| 0.056 | | | | | 15603 | | 75603 | | | |
| Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm | | | | | | | | | | |
| 0.062 | 7.0 × 13.5 × 17.5 | 1.9 | | | 16203 | 800 | 76203 | 750 | | |
| 0.068 | | | | | 16803 | | 76803 | | | |
| 0.075 | | | | | 17503 | | 77503 | | | |
| 0.082 | | | | | 18203 | | 78203 | | | |
| 0.091 | 8.5 × 15.0 × 17.5 | 2.6 | | | 19103 | 650 | 79103 | 750 | | |
| 0.1 | | | | | 11004 | | 71004 | | | |
| 0.11 | | | | | 11104 | | 71104 | | | |
| 0.12 | | | | | 11204 | | 71204 | | | |
| 0.13 | 10.0 × 16.5 × 17.5 | 3.1 | | | 11304 | 600 | 71304 | 500 | | |
| 0.15 | | | | | 11504 | | 71504 | | | |
| 0.16 | | | | | 11604 | | 71604 | | | |

MAXIMUM RMS VOLTAGE (SENAWE) AS A FUNCTION OF FREQUENCY

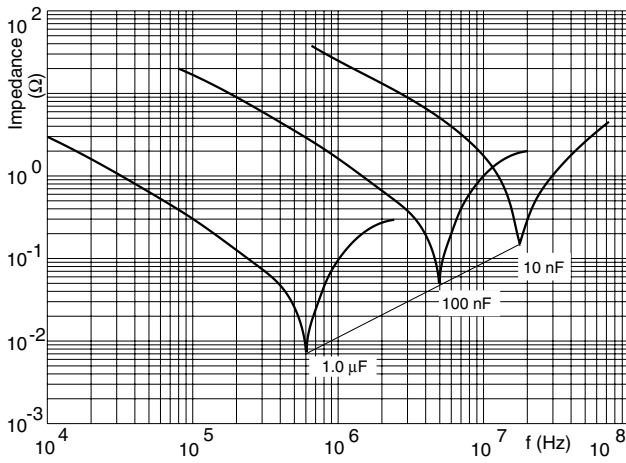




CAPACITANCE



IMPEDANCE





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