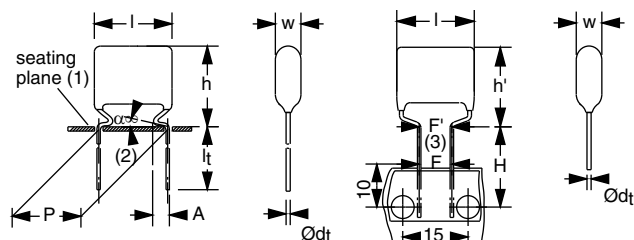


# AC and Pulse Polypropylene Film Capacitors MKP Radial Epoxy Lacquered Type



Dimensions in mm

Hole Ø 1.0 for  $d_t = 0.6$  mm

Hole Ø 1.3 for  $d_t = 0.8$  mm

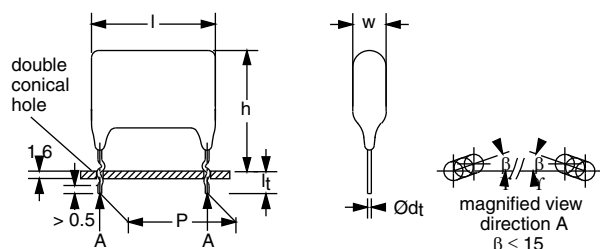
$0 \leq \alpha < 50^\circ$

$|F - F'| < 0.3$  mm

$F = 7.5$  mm + 0.6 mm / - 0.1 mm

$A = 2.0$  mm + 1.0 mm / - 0.5 mm (pitch = 10.0 mm)

$A = 2.5$  mm + 1.4 mm / - 0.5 mm (pitch = 15.0 mm; 22.5 mm and 27.5 mm)



Dimensions in mm

## APPLICATIONS

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

## MARKING

Manufacturer's emblem; C-value; tolerance; rated voltage; manufacturer's type designation; code for dielectric material

## DIELECTRIC

Polypropylene film

## ELECTRODES

Metallized

## COATING

Flame retardant epoxy material (UL-class 94 V-0)

## LEADS

Tinned wire

## FEATURES

- 7.5 mm bent back pitch
- 10 mm to 27.5 mm lead pitch
- Low contact resistance
- Low loss dielectric
- Supplied loose in box (including lock lead versions) and taped on reel
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

## CONSTRUCTION

Wound mono construction

## CAPACITANCE RANGE (E24 SERIES)

0.01 µF to 3.9 µF

## CAPACITANCE TOLERANCE

± 5 %

## RATED (DC) VOLTAGE

160 V; 250 V; 400 V; 630 V

## RATED (AC) VOLTAGE

100 V; 160 V; 200 V

## RATED PEAK-TO-PEAK VOLTAGE

280 V; 450 V; 560 V

## CLIMATIC CATEGORY

55/105/56

## RATED TEMPERATURE

85 °C

## MAXIMUM APPLICATION TEMPERATURE

105 °C

## REFERENCE SPECIFICATIONS

IEC 60384-17

## PERFORMANCE GRADE

Grade 1 (long life)

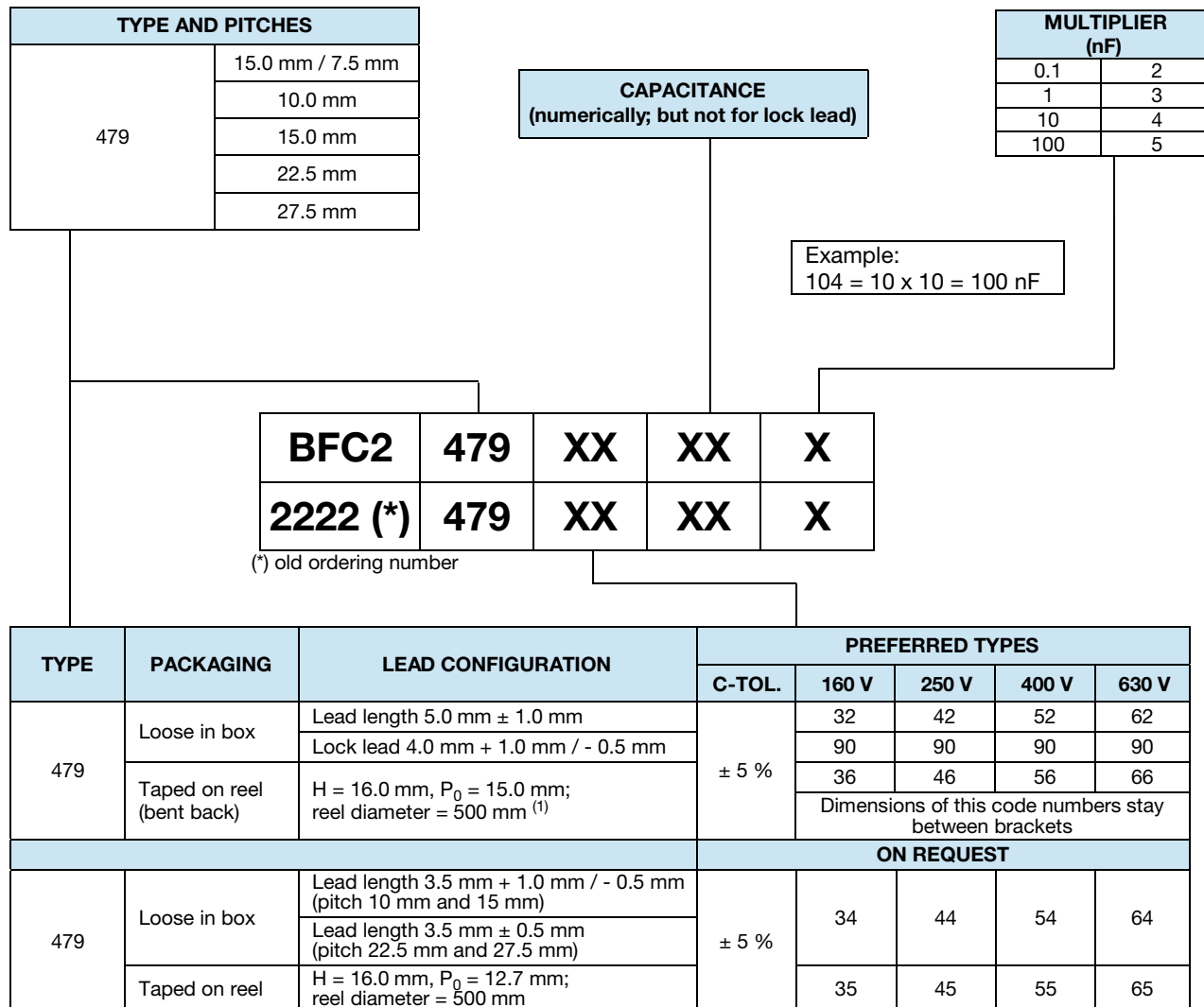
## STABILITY GRADE

Grade 2

## DETAIL SPECIFICATION

For more detailed data and test requirements contact:

[dc-film@vishay.com](mailto:dc-film@vishay.com)

**COMPOSITION OF CATALOG NUMBER**

**Notes**

- <sup>(1)</sup> Small reel diameter = 356 mm is available on request
- For detailed tape specifications refer to packaging information [www.vishay.com/doc?28139](http://www.vishay.com/doc?28139)

SPECIFIC REFERENCE DATA (160 V<sub>DC</sub>)

| DESCRIPTION                                                                         | VALUE                   |                          |
|-------------------------------------------------------------------------------------|-------------------------|--------------------------|
|                                                                                     | at 10 kHz               | at 100 kHz               |
| Tangent of loss angle:                                                              |                         |                          |
| C = 0.075 µF                                                                        | ≤ 10 x 10 <sup>-4</sup> | ≤ 25 x 10 <sup>-4</sup>  |
| 0.075 µF < C ≤ 0.11 µF                                                              | ≤ 10 x 10 <sup>-4</sup> | ≤ 30 x 10 <sup>-4</sup>  |
| 0.11 µF < C ≤ 0.18 µF                                                               | ≤ 10 x 10 <sup>-4</sup> | ≤ 35 x 10 <sup>-4</sup>  |
| 0.18 µF < C ≤ 0.3 µF                                                                | ≤ 10 x 10 <sup>-4</sup> | ≤ 40 x 10 <sup>-4</sup>  |
| 0.3 µF < C ≤ 0.47 µF                                                                | ≤ 10 x 10 <sup>-4</sup> | ≤ 60 x 10 <sup>-4</sup>  |
| 0.47 µF < C ≤ 0.82 µF                                                               | ≤ 15 x 10 <sup>-4</sup> | ≤ 90 x 10 <sup>-4</sup>  |
| 0.82 µF < C ≤ 1.1 µF                                                                | ≤ 15 x 10 <sup>-4</sup> | ≤ 100 x 10 <sup>-4</sup> |
| 1.1 µF < C ≤ 1.2 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 120 x 10 <sup>-4</sup> |
| 1.2 µF < C ≤ 1.3 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 125 x 10 <sup>-4</sup> |
| 1.3 µF < C ≤ 1.8 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 135 x 10 <sup>-4</sup> |
| 1.8 µF < C ≤ 2.4 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 145 x 10 <sup>-4</sup> |
| 2.4 µF < C ≤ 3.0 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 155 x 10 <sup>-4</sup> |
| 3.0 µF < C ≤ 3.3 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 165 x 10 <sup>-4</sup> |
| 3.3 µF < C ≤ 3.6 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 175 x 10 <sup>-4</sup> |
| 3.6 µF < C ≤ 3.9 µF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 185 x 10 <sup>-4</sup> |
| Rated voltage pulse slope (dU/dt) <sub>R</sub> at 160 V <sub>DC</sub> :             |                         |                          |
| P = 10 mm                                                                           | 60 V/µs                 |                          |
| P = 15 mm                                                                           | 50 V/µs                 |                          |
| P = 22.5 mm                                                                         | 25 V/µs                 |                          |
| P = 27.5 mm                                                                         | 15 V/µs                 |                          |
| R between leads, for C ≤ 1.0 µF at 100 V; 1 min                                     | > 100 000 MΩ            |                          |
| RC between leads, for C > 1 µF at 100 V; 1 min                                      | > 100 000 s             |                          |
| R between leads and case; 100 V; 1 min                                              | > 100 000 MΩ            |                          |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge                     | > 220 V                 |                          |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s <sup>(1)</sup> | 256 V; 1 min            |                          |
| Withstanding (DC) voltage between leads and case                                    | 2840 V; 1 min           |                          |

## Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": [www.vishay.com/doc?28169](http://www.vishay.com/doc?28169)

**U<sub>RDC</sub> = 160 V; U<sub>RAC</sub> = 100 V; U<sub>p-p</sub> = 280 V (standard); C-tol. = ± 5 %**

| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |           |                            |     |                 |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|-----------|----------------------------|-----|-----------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |           | REEL                       |     |                 |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL LEADS | PITCH 7.5 mm (BENT BACK)   |     | ORIGINAL PITCH  |
|                                                              |                                                                                      |             |                                           | SPQ       |                            | SPQ | SPQ             |
| Pitch = 10.0 mm ± 0.4 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                      |             |                                           |           | Pitch = 7.5 mm (bent back) |     | Pitch = 10.0 mm |
| 0.075                                                        | 6.0 x 15.0 x 12.5                                                                    | 0.9         | 32753                                     | 1000      |                            |     | 1000            |
| 0.082                                                        |                                                                                      |             | 32823                                     |           |                            |     |                 |
| 0.091                                                        |                                                                                      |             | 32913                                     |           |                            |     |                 |
| 0.10                                                         |                                                                                      |             | 32104                                     |           |                            |     |                 |
| 0.11                                                         |                                                                                      |             | 32114                                     |           |                            |     |                 |
| 0.12                                                         |                                                                                      |             | 32124                                     |           |                            |     |                 |
| 0.13                                                         |                                                                                      |             | 32134                                     |           |                            |     |                 |
| 0.15                                                         | 6.5 x 15.5 x 12.5                                                                    | 1.0         | 32154                                     | 1000      |                            |     | 900             |
| 0.16                                                         |                                                                                      |             | 32164                                     |           |                            |     |                 |



| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |              |                            |     |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|--------------|----------------------------|-----|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |              | REEL                       |     |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS | PITCH 7.5 mm (BENT BACK)   |     | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           | SPQ          |                            | SPQ | SPQ               |
| Pitch = 15.0 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 15.0 mm   |
| 0.18                                                         | 6.0 x 15.0 (16.5) x 18.5                                                             | 1.2         | 32184                                     | 2000         | 36184                      | 800 | 1000              |
| 0.20                                                         | 7.0 x 16.0 (17.5) x 18.5                                                             | 1.3         | 32204                                     | 1500         | 36204                      | 750 | 900               |
| 0.22                                                         |                                                                                      |             | 32224                                     |              | 36224                      |     |                   |
| 0.24                                                         |                                                                                      |             | 32244                                     | 1250         | 36244                      | 700 | 800               |
| 0.27                                                         |                                                                                      |             | 32274                                     |              | 36274                      |     |                   |
| 0.30                                                         |                                                                                      |             | 32304                                     |              | 36304                      |     |                   |
| 0.33                                                         |                                                                                      |             | 32334                                     |              | 36334                      |     |                   |
| 0.36                                                         |                                                                                      |             | 32364                                     |              | 36364                      |     |                   |
| 0.39                                                         |                                                                                      |             | 32394                                     |              | 36394                      |     |                   |
| 0.43                                                         | 7.5 x 16.5 (18.0) x 18.5                                                             | 1.5         | 32434                                     | 1250         | 36434                      | 650 | 800               |
| 0.47                                                         |                                                                                      |             | 32474                                     |              | 36474                      |     |                   |
| 0.51                                                         | 8.0 x 17.0 (18.5) x 18.5                                                             | 1.6         | 32514                                     | 1250         | 36514                      | 600 | 700               |
| 0.56                                                         |                                                                                      |             | 32564                                     |              | 36564                      |     |                   |
| 0.62                                                         | 8.5 x 17.5 (19.0) x 18.5                                                             | 1.7         | 32624                                     | 1000         | 36624                      | 550 | 700               |
| 0.68                                                         | 9.0 x 18.0 (19.5) x 18.5                                                             | 1.8         | 32684                                     | 1000         | 36684                      | 550 | 600               |
| 0.75                                                         | 9.5 x 18.5 (20.0) x 18.5                                                             | 1.9         | 32754                                     | 900          | 36754                      | 500 | 600               |
| Pitch = 22.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 22.5 mm   |
| 0.82                                                         | 7.0 x 20.0 x 26.0                                                                    | 1.8         | 32824                                     | 650          |                            |     |                   |
| 0.91                                                         | 7.5 x 20.5 x 26.0                                                                    | 1.9         | 32914                                     | 600          |                            |     |                   |
| 1.0                                                          |                                                                                      |             | 32105                                     |              |                            |     |                   |
| 1.1                                                          | 8.0 x 21.0 x 26.0                                                                    | 2.0         | 32115                                     | 550          |                            |     |                   |
| 1.2                                                          | 8.5 x 21.5 x 26.0                                                                    | 2.1         | 32125                                     | 500          |                            |     |                   |
| 1.3                                                          |                                                                                      |             | 32135                                     |              |                            |     |                   |
| 1.5                                                          | 9.5 x 22.5 x 26.0                                                                    | 2.4         | 32155                                     | 450          |                            |     |                   |
| 1.6                                                          |                                                                                      |             | 32165                                     |              |                            |     |                   |
| 1.8                                                          | 10.0 x 23.0 x 26.0                                                                   | 2.5         | 32185                                     | 400          |                            |     |                   |
| Pitch = 27.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 ± 0.08 mm    |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 27.5 mm   |
| 2.0                                                          | 10.0 x 23.0 x 30.0                                                                   | 5.0         | 32205                                     | 450          |                            |     |                   |
| 2.2                                                          | 10.5 x 23.5 x 30.0                                                                   | 5.0         | 32225                                     | 450          |                            |     |                   |
| 2.4                                                          | 11.0 x 24.0 x 30.0                                                                   | 5.5         | 32245                                     | 400          |                            |     |                   |
| 2.7                                                          | 11.5 x 24.5 x 30.0                                                                   | 5.5         | 32275                                     | 400          |                            |     |                   |
| 3.0                                                          | 12.0 x 25.0 x 30.0                                                                   | 6.0         | 32305                                     | 350          |                            |     |                   |
| 3.3                                                          | 13.0 x 26.0 x 30.0                                                                   | 6.5         | 32335                                     | 300          |                            |     |                   |
| 3.6                                                          | 13.5 x 26.5 x 30.0                                                                   | 7.0         | 32365                                     | 300          |                            |     |                   |
| 3.9                                                          | 14.0 x 27.0 x 30.0                                                                   | 7.0         | 32395                                     | 300          |                            |     |                   |



$U_{RDC} = 160 \text{ V}$ ;  $U_{RAC} = 100 \text{ V}$ ;  $U_{p-p} = 280 \text{ V}$  (lock lead); C-tol. =  $\pm 5 \%$

| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING   |      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------------|------|
|                                                              |                                                                                 |             | LOOSE IN BOX                                |      |
|                                                              |                                                                                 |             | l <sub>t</sub> = 4.0 mm + 1.0 mm / - 0.5 mm |      |
|                                                              |                                                                                 |             |                                             | SPQ  |
| Pitch = 10.0 mm ± 1.0 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                 |             |                                             |      |
| 0.075<br>0.082<br>0.091<br>0.10<br>0.11<br>0.12<br>0.13      | 6.0 x 18.0 x 12.5                                                               | 0.9         | 90089                                       | 1400 |
|                                                              |                                                                                 |             | 90091                                       |      |
|                                                              |                                                                                 |             | 90092                                       |      |
|                                                              |                                                                                 |             | 90093                                       |      |
|                                                              |                                                                                 |             | 90094                                       |      |
|                                                              |                                                                                 |             | 90095                                       |      |
|                                                              |                                                                                 |             | 90096                                       |      |
| 0.15<br>0.16                                                 | 6.5 x 18.5 x 12.5                                                               | 1.0         | 90097<br>90098                              | 1250 |
| Pitch = 15.0 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.18                                                         | 6.0 x 18.0 x 18.5                                                               | 1.2         | 90099                                       | 1500 |
| 0.20<br>0.22                                                 | 6.5 x 18.5 x 18.5                                                               | 1.3         | 90101                                       | 1250 |
|                                                              |                                                                                 |             | 90102                                       |      |
| 0.24<br>0.27<br>0.30<br>0.33<br>0.36<br>0.39                 | 7.0 x 19.0 x 18.5                                                               | 1.4         | 90103                                       | 1250 |
|                                                              |                                                                                 |             | 90104                                       |      |
|                                                              |                                                                                 |             | 90105                                       |      |
|                                                              |                                                                                 |             | 90106                                       |      |
|                                                              |                                                                                 |             | 90107                                       |      |
|                                                              |                                                                                 |             | 90108                                       |      |
| 0.43<br>0.47                                                 | 7.5 x 19.5 x 18.5                                                               | 1.5         | 90109<br>90111                              | 1000 |
| 0.51<br>0.56                                                 | 8.0 x 20.0 x 18.5                                                               | 1.6         | 90112                                       | 1000 |
|                                                              |                                                                                 |             | 90113                                       |      |
| 0.62                                                         | 8.5 x 20.5 x 18.5                                                               | 1.7         | 90114                                       | 900  |
| 0.68                                                         | 9.0 x 21.0 x 18.5                                                               | 1.8         | 90115                                       | 800  |
| 0.75                                                         | 9.5 x 21.5 x 18.5                                                               | 1.9         | 90116                                       | 800  |
| Pitch = 22.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.82                                                         | 7.0 x 23.0 x 26.0                                                               | 1.8         | 90117                                       | 850  |
| 0.91<br>1.0                                                  | 7.5 x 23.5 x 26.0                                                               | 1.9         | 90118                                       | 750  |
|                                                              |                                                                                 |             | 90119                                       |      |
| 1.1                                                          | 8.0 x 24.0 x 26.0                                                               | 2.0         | 90121                                       | 700  |
| 1.2<br>1.3                                                   | 8.5 x 24.5 x 26.0                                                               | 2.1         | 90122                                       | 650  |
|                                                              |                                                                                 |             | 90036                                       |      |
| 1.5<br>1.6                                                   | 9.5 x 25.5 x 26.0                                                               | 2.4         | 90037                                       | 550  |
|                                                              |                                                                                 |             | 90038                                       |      |
| 1.8                                                          | 10.0 x 26.0 x 26.0                                                              | 2.5         | 90039                                       | 500  |
| Pitch = 27.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 2.0                                                          | 10.0 x 26.0 x 30.0                                                              | 5.0         | 90041                                       | 400  |
| 2.2                                                          | 10.5 x 26.5 x 30.0                                                              | 5.0         | 90042                                       | 400  |
| 2.4                                                          | 11.0 x 27.0 x 30.0                                                              | 5.5         | 90123                                       | 350  |
| 2.7                                                          | 11.5 x 27.5 x 30.0                                                              | 5.5         | 90124                                       | 350  |
| 3.0                                                          | 12.0 x 28.0 x 30.0                                                              | 6.0         | 90125                                       | 350  |
| 3.3                                                          | 13.0 x 29.0 x 30.0                                                              | 6.5         | 90126                                       | 300  |
| 3.6                                                          | 13.5 x 29.5 x 30.0                                                              | 7.0         | 90127                                       | 250  |
| 3.9                                                          | 14.0 x 30.0 x 30.0                                                              | 7.0         | 90128                                       | 250  |

SPECIFIC REFERENCE DATA (250 V<sub>DC</sub>)

| DESCRIPTION                                                                         | VALUE                    |                           |
|-------------------------------------------------------------------------------------|--------------------------|---------------------------|
|                                                                                     | at 10 kHz                | at 100 kHz                |
| Tangent of loss angle:                                                              |                          |                           |
| 0.047 $\mu\text{F} \leq C \leq 0.075 \mu\text{F}$                                   | $\leq 10 \times 10^{-4}$ | $\leq 25 \times 10^{-4}$  |
| 0.075 $\mu\text{F} < C \leq 0.11 \mu\text{F}$                                       | $\leq 10 \times 10^{-4}$ | $\leq 30 \times 10^{-4}$  |
| 0.11 $\mu\text{F} < C \leq 0.18 \mu\text{F}$                                        | $\leq 10 \times 10^{-4}$ | $\leq 35 \times 10^{-4}$  |
| 0.18 $\mu\text{F} < C \leq 0.30 \mu\text{F}$                                        | $\leq 10 \times 10^{-4}$ | $\leq 40 \times 10^{-4}$  |
| 0.30 $\mu\text{F} < C \leq 0.47 \mu\text{F}$                                        | $\leq 10 \times 10^{-4}$ | $\leq 60 \times 10^{-4}$  |
| 0.47 $\mu\text{F} < C \leq 0.82 \mu\text{F}$                                        | $\leq 15 \times 10^{-4}$ | $\leq 90 \times 10^{-4}$  |
| 0.82 $\mu\text{F} < C \leq 1.1 \mu\text{F}$                                         | $\leq 15 \times 10^{-4}$ | $\leq 100 \times 10^{-4}$ |
| 1.1 $\mu\text{F} < C \leq 1.2 \mu\text{F}$                                          | $\leq 15 \times 10^{-4}$ | $\leq 120 \times 10^{-4}$ |
| 1.2 $\mu\text{F} < C \leq 1.3 \mu\text{F}$                                          | $\leq 15 \times 10^{-4}$ | $\leq 125 \times 10^{-4}$ |
| 1.3 $\mu\text{F} < C \leq 1.8 \mu\text{F}$                                          | $\leq 15 \times 10^{-4}$ | $\leq 135 \times 10^{-4}$ |
| 1.8 $\mu\text{F} < C \leq 2.4 \mu\text{F}$                                          | $\leq 15 \times 10^{-4}$ | $\leq 145 \times 10^{-4}$ |
| 2.4 $\mu\text{F} < C \leq 3.0 \mu\text{F}$                                          | $\leq 15 \times 10^{-4}$ | $\leq 155 \times 10^{-4}$ |
| Rated voltage pulse slope (dU/dt) <sub>R</sub> :                                    |                          |                           |
| P = 10.0 mm                                                                         | 70 V/ $\mu\text{s}$      |                           |
| P = 15.0 mm                                                                         | 60 V/ $\mu\text{s}$      |                           |
| P = 22.5 mm                                                                         | 30 V/ $\mu\text{s}$      |                           |
| P = 27.5 mm                                                                         | 20 V/ $\mu\text{s}$      |                           |
| R between leads, for $C \leq 1.0 \mu\text{F}$ at 100 V; 1 min                       | > 100 000 M $\Omega$     |                           |
| RC between leads, for $C > 1 \mu\text{F}$ at 100 V; 1 min                           | > 100 000 s              |                           |
| R between leads and case; 100 V; 1 min                                              | > 100 000 M $\Omega$     |                           |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge                     | > 220 V                  |                           |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s <sup>(1)</sup> | 400 V; 1 min             |                           |
| Withstanding (DC) voltage between leads and case                                    | 2840 V; 1 min            |                           |

## Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": [www.vishay.com/doc?28169](http://www.vishay.com/doc?28169)

**U<sub>RDC</sub> = 250 V; U<sub>RAC</sub> = 160 V; U<sub>p-p</sub> = 450 V (standard); C-tol. =  $\pm 5\%$**

| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |                            |                          |                 |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|----------------------------|--------------------------|-----------------|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |                            | REEL                     |                 |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS               | PITCH 7.5 mm (BENT BACK) |                 | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           | SPQ                        |                          | SPQ             | SPQ               |
| Pitch = 10.0 mm ± 0.4 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                      |             |                                           | Pitch = 7.5 mm (bent back) |                          | Pitch = 10.0 mm |                   |
| 0.047                                                        | 6.0 x 15.0 x 12.5                                                                    | 0.9         | 42473                                     | 1000                       |                          | 1000            |                   |
| 0.051                                                        |                                                                                      |             | 42513                                     |                            |                          |                 |                   |
| 0.056                                                        |                                                                                      |             | 42563                                     |                            |                          |                 |                   |
| 0.062                                                        |                                                                                      |             | 42623                                     |                            |                          |                 |                   |
| 0.068                                                        |                                                                                      |             | 42683                                     |                            |                          |                 |                   |
| 0.075                                                        |                                                                                      |             | 42753                                     |                            |                          |                 |                   |
| 0.082                                                        |                                                                                      |             | 42823                                     |                            |                          |                 |                   |
| 0.091                                                        |                                                                                      |             | 42913                                     |                            |                          |                 |                   |
| 0.10                                                         | 6.5 x 15.5 x 12.5                                                                    | 1.0         | 42104                                     | 1000                       |                          | 900             |                   |



| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |              |                            |     |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|--------------|----------------------------|-----|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |              | REEL                       |     |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS | PITCH 7.5 mm (BENT BACK)   |     | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           | SPQ          |                            | SPQ | SPQ               |
| Pitch = 15.0 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 15.0 mm   |
| 0.11                                                         | 6.5 x 15.5 (17.0) x 18.5                                                             | 1.3         | 42114                                     | 1500         | 46114                      | 750 | 900               |
| 0.12                                                         |                                                                                      |             | 42124                                     |              | 46124                      |     |                   |
| 0.13                                                         |                                                                                      |             | 42134                                     |              | 46134                      |     |                   |
| 0.15                                                         |                                                                                      |             | 42154                                     |              | 46154                      |     |                   |
| 0.16                                                         |                                                                                      |             | 42164                                     |              | 46164                      |     |                   |
| 0.18                                                         |                                                                                      |             | 42184                                     |              | 46184                      |     |                   |
| 0.20                                                         |                                                                                      |             | 42204                                     |              | 46204                      |     |                   |
| 0.22                                                         |                                                                                      |             | 42224                                     |              | 46224                      |     |                   |
| 0.24                                                         | 7.0 x 16.0 (17.5) x 18.5                                                             | 1.4         | 42244                                     | 1250         | 46244                      | 700 | 800               |
| 0.27                                                         | 7.5 x 16.5 (18.0) x 18.5                                                             | 1.5         | 42274                                     | 1250         | 46274                      | 650 | 800               |
| 0.30                                                         |                                                                                      |             | 42304                                     |              | 46304                      |     |                   |
| 0.33                                                         | 8.0 x 17.0 (18.5) x 18.5                                                             | 1.6         | 42334                                     | 150          | 46334                      | 600 | 700               |
| 0.36                                                         | 8.5 x 17.5 (19.0) x 18.5                                                             | 1.7         | 42364                                     | 1000         | 46364                      | 550 | 700               |
| 0.39                                                         |                                                                                      |             | 42394                                     |              | 46394                      |     |                   |
| 0.43                                                         | 9.0 x 18.0 (19.5) x 18.5                                                             | 1.8         | 42434                                     | 1000         | 46434                      | 550 | 600               |
| 0.47                                                         | 9.5 x 18.5 (20.0) x 18.5                                                             | 1.9         | 42474                                     | 900          | 46474                      | 500 | 600               |
| Pitch = 22.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 22.5 mm   |
| 0.51                                                         | 7.0 x 20.0 x 26.0                                                                    | 1.8         | 42514                                     | 650          |                            |     |                   |
| 0.56                                                         |                                                                                      |             | 42564                                     |              |                            |     |                   |
| 0.62                                                         | 7.5 x 20.5 x 26.0                                                                    | 1.9         | 42624                                     | 600          |                            |     |                   |
| 0.68                                                         |                                                                                      |             | 42684                                     |              |                            |     |                   |
| 0.75                                                         | 8.0 x 21.0 x 26.0                                                                    | 2.0         | 42754                                     | 550          |                            |     |                   |
| 0.82                                                         | 8.5 x 21.5 x 26.0                                                                    | 2.1         | 42824                                     | 500          |                            |     |                   |
| 0.91                                                         | 9.0 x 22.0 x 26.0                                                                    | 2.4         | 42914                                     | 450          |                            |     |                   |
| 1.0                                                          | 9.5 x 22.5 x 26.0                                                                    | 2.5         | 42105                                     | 450          |                            |     |                   |
| 1.1                                                          | 10.0 x 23.0 x 26.0                                                                   | 2.6         | 42115                                     | 400          |                            |     |                   |
| 1.2                                                          | 10.5 x 23.5 x 26.0                                                                   | 2.7         | 42125                                     | 350          |                            |     |                   |
| Pitch = 27.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 27.5 mm   |
| 1.3                                                          | 10.0 x 23.0 x 30.0                                                                   | 5.0         | 42135                                     | 450          |                            |     |                   |
| 1.5                                                          | 10.5 x 23.5 x 30.0                                                                   | 5.0         | 42155                                     | 450          |                            |     |                   |
| 1.6                                                          | 11.0 x 24.0 x 30.0                                                                   | 5.5         | 42165                                     | 400          |                            |     |                   |
| 1.8                                                          | 11.5 x 24.5 x 30.0                                                                   | 5.5         | 42185                                     | 400          |                            |     |                   |
| 2.0                                                          | 12.5 x 25.0 x 30.0                                                                   | 6.5         | 42205                                     | 350          |                            |     |                   |
| 2.2                                                          | 13.0 x 26.0 x 30.0                                                                   | 6.5         | 42225                                     | 300          |                            |     |                   |
| 2.4                                                          | 13.5 x 26.5 x 30.0                                                                   | 7.0         | 42245                                     | 300          |                            |     |                   |
| 2.7                                                          | 14.0 x 27.0 x 30.0                                                                   | 7.0         | 42275                                     | 300          |                            |     |                   |
| 3.0                                                          | 15.0 x 28.0 x 30.0                                                                   | 7.5         | 42305                                     | 250          |                            |     |                   |



$U_{Rdc} = 250 \text{ V}$ ;  $U_{Rac} = 160 \text{ V}$ ;  $U_{p-p} = 450 \text{ V}$  (lock lead); C-tol. =  $\pm 5 \%$

| C<br>(μF)                                                            | DIMENSIONS<br>w <sub>max.</sub> x h <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING   |      |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------------|------|
|                                                                      |                                                                                 |             | LOOSE IN BOX                                |      |
|                                                                      |                                                                                 |             | l <sub>t</sub> = 4.0 mm + 1.0 mm / - 0.5 mm |      |
|                                                                      |                                                                                 |             |                                             | SPQ  |
| Pitch = 10.0 mm ± 1.0 mm; d <sub>t</sub> = 0.60 ± 0.06 mm            |                                                                                 |             |                                             |      |
| 0.047<br>0.051<br>0.056<br>0.062<br>0.068<br>0.075<br>0.082<br>0.091 | 6.0 x 18.0 x 12.5                                                               | 0.9         | 90052                                       | 1400 |
|                                                                      |                                                                                 |             | 90129                                       |      |
|                                                                      |                                                                                 |             | 90131                                       |      |
|                                                                      |                                                                                 |             | 90132                                       |      |
|                                                                      |                                                                                 |             | 90133                                       |      |
|                                                                      |                                                                                 |             | 90134                                       |      |
|                                                                      |                                                                                 |             | 90135                                       |      |
|                                                                      |                                                                                 |             | 90136                                       |      |
| 0.10                                                                 | 6.5 x 18.5 x 12.5                                                               | 1.0         | 90137                                       | 1250 |
| Pitch = 15.0 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm         |                                                                                 |             |                                             |      |
| 0.11<br>0.12<br>0.13<br>0.15<br>0.16<br>0.18<br>0.20<br>0.22         | 6.5 x 18.5 x 18.5                                                               | 1.3         | 90138                                       | 1250 |
|                                                                      |                                                                                 |             | 90051                                       |      |
|                                                                      |                                                                                 |             | 90139                                       |      |
|                                                                      |                                                                                 |             | 90141                                       |      |
|                                                                      |                                                                                 |             | 90142                                       |      |
|                                                                      |                                                                                 |             | 90012                                       |      |
|                                                                      |                                                                                 |             | 90013                                       |      |
|                                                                      |                                                                                 |             | 90014                                       |      |
| 0.24                                                                 | 7.0 x 19.0 x 18.5                                                               | 1.4         | 90015                                       | 1250 |
| 0.27<br>0.30                                                         | 7.5 x 19.5 x 18.5                                                               | 1.5         | 90016                                       | 1000 |
|                                                                      |                                                                                 |             | 90017                                       |      |
| 0.33                                                                 | 8.0 x 20.0 x 18.5                                                               | 1.6         | 90018                                       | 1000 |
| 0.36<br>0.39                                                         | 8.5 x 20.5 x 18.5                                                               | 1.7         | 90019                                       | 900  |
|                                                                      |                                                                                 |             | 90021                                       |      |
| 0.43                                                                 | 9.0 x 21.0 x 18.5                                                               | 1.8         | 90022                                       | 800  |
| 0.47                                                                 | 9.5 x 21.5 x 18.5                                                               | 1.9         | 90023                                       | 800  |
| Pitch = 22.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm         |                                                                                 |             |                                             |      |
| 0.51<br>0.56                                                         | 7.0 x 23.0 x 26.0                                                               | 1.8         | 90024                                       | 850  |
|                                                                      |                                                                                 |             | 90025                                       |      |
| 0.62<br>0.68                                                         | 7.5 x 23.5 x 26.0                                                               | 1.9         | 90026                                       | 750  |
|                                                                      |                                                                                 |             | 90027                                       |      |
| 0.75                                                                 | 8.0 x 24.0 x 26.0                                                               | 2.0         | 90028                                       | 700  |
| 0.82                                                                 | 8.5 x 24.5 x 26.0                                                               | 2.1         | 90029                                       | 650  |
| 0.91                                                                 | 9.0 x 25.0 x 26.0                                                               | 2.4         | 90031                                       | 600  |
| 1.0                                                                  | 9.5 x 25.5 x 26.0                                                               | 2.5         | 90032                                       | 550  |
| 1.1                                                                  | 10.0 x 26.0 x 26.0                                                              | 2.6         | 90033                                       | 500  |
| 1.2                                                                  | 10.5 x 26.5 x 26.0                                                              | 2.7         | 90034                                       | 500  |
| Pitch = 27.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm         |                                                                                 |             |                                             |      |
| 1.3                                                                  | 10.0 x 26.0 x 30.0                                                              | 5.0         | 90143                                       | 400  |
| 1.5                                                                  | 10.5 x 26.5 x 30.0                                                              | 5.0         | 90144                                       | 400  |
| 1.6                                                                  | 11.0 x 27.0 x 30.0                                                              | 5.5         | 90145                                       | 350  |
| 1.8                                                                  | 11.5 x 27.5 x 30.0                                                              | 5.5         | 90146                                       | 350  |
| 2.0                                                                  | 12.5 x 28.5 x 30.0                                                              | 6.5         | 90147                                       | 300  |
| 2.2                                                                  | 13.0 x 29.0 x 30.0                                                              | 6.5         | 90148                                       | 300  |
| 2.4                                                                  | 13.5 x 29.5 x 30.0                                                              | 7.0         | 90149                                       | 250  |
| 2.7                                                                  | 14.0 x 30.0 x 30.0                                                              | 7.0         | 90151                                       | 250  |
| 3.0                                                                  | 15.0 x 31.0 x 30.0                                                              | 7.5         | 90152                                       | 200  |



SPECIFIC REFERENCE DATA (400 V<sub>DC</sub>)

| DESCRIPTION                                                                         | VALUE                   |                          |
|-------------------------------------------------------------------------------------|-------------------------|--------------------------|
|                                                                                     | at 10 kHz               | at 100 kHz               |
| Tangent of loss angle:                                                              |                         |                          |
| 0.022 ≤ C ≤ 0.027                                                                   | ≤ 10 x 10 <sup>-4</sup> | ≤ 20 x 10 <sup>-4</sup>  |
| 0.027 < C ≤ 0.075                                                                   | ≤ 10 x 10 <sup>-4</sup> | ≤ 25 x 10 <sup>-4</sup>  |
| 0.075 μF < C ≤ 0.11 μF                                                              | ≤ 10 x 10 <sup>-4</sup> | ≤ 30 x 10 <sup>-4</sup>  |
| 0.11 μF < C ≤ 0.18 μF                                                               | ≤ 10 x 10 <sup>-4</sup> | ≤ 35 x 10 <sup>-4</sup>  |
| 0.18 μF < C ≤ 0.3 μF                                                                | ≤ 10 x 10 <sup>-4</sup> | ≤ 40 x 10 <sup>-4</sup>  |
| 0.3 μF < C ≤ 0.47 μF                                                                | ≤ 10 x 10 <sup>-4</sup> | ≤ 60 x 10 <sup>-4</sup>  |
| 0.47 μF < C ≤ 0.82 μF                                                               | ≤ 15 x 10 <sup>-4</sup> | ≤ 90 x 10 <sup>-4</sup>  |
| 0.82 μF < C ≤ 1.1 μF                                                                | ≤ 15 x 10 <sup>-4</sup> | ≤ 100 x 10 <sup>-4</sup> |
| 1.1 μF < C ≤ 1.2 μF                                                                 | ≤ 15 x 10 <sup>-4</sup> | ≤ 120 x 10 <sup>-4</sup> |
| Rated voltage pulse slope (dU/dt) <sub>R</sub> at 400 V <sub>DC</sub> :             |                         |                          |
| P = 10.0 mm                                                                         | 80 V/μs                 |                          |
| P = 15.0 mm                                                                         | 70 V/μs                 |                          |
| P = 22.5 mm                                                                         | 35 V/μs                 |                          |
| P = 27.5 mm                                                                         | 25 V/μs                 |                          |
| R between leads, for C ≤ 1.0 μF at 100 V; 1 min                                     | > 100 000 MΩ            |                          |
| RC between leads, for C > 1.0 μF at 100 V; 1 min                                    | > 100 000 s             |                          |
| R between leads and case; 100 V; 1 min                                              | > 100 000 MΩ            |                          |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge                     | > 220 V                 |                          |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s <sup>(1)</sup> | 640 V; 1 min            |                          |
| Withstanding (DC) voltage between leads and case                                    | 2840 V; 1 min           |                          |

## Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": [www.vishay.com/doc?28169](http://www.vishay.com/doc?28169)

**U<sub>RDC</sub> = 400 V; U<sub>RAC</sub> = 200 V; U<sub>p-p</sub> = 560 V (standard); C-tol. = ± 5 %**

| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |              |                          |                 |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|--------------|--------------------------|-----------------|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |              | REEL                     |                 |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS | PITCH 7.5 mm (BENT BACK) |                 | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           |              |                          | SPQ             |                   |
| Pitch = 10.0 mm ± 0.4 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                      |             | Pitch = 7.5 mm (bent back)                |              |                          | Pitch = 10.0 mm |                   |
| 0.022                                                        | 6.0 x 15.0 x 12.5                                                                    | 0.9         | 52223                                     | 1000         |                          | 1000            |                   |
| 0.024                                                        |                                                                                      |             | 52243                                     |              |                          |                 |                   |
| 0.027                                                        |                                                                                      |             | 52273                                     |              |                          |                 |                   |
| 0.030                                                        |                                                                                      |             | 52303                                     |              |                          |                 |                   |
| 0.033                                                        |                                                                                      |             | 52333                                     |              |                          |                 |                   |
| 0.036                                                        |                                                                                      |             | 52363                                     |              |                          |                 |                   |
| 0.039                                                        |                                                                                      |             | 52393                                     |              |                          |                 |                   |
| 0.043                                                        |                                                                                      |             | 52433                                     |              |                          |                 |                   |
| 0.047                                                        |                                                                                      |             | 52473                                     |              |                          |                 |                   |



| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |              |                            |     |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|--------------|----------------------------|-----|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |              | REEL                       |     |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS | PITCH 7.5 mm (BENT BACK)   |     | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           | SPQ          |                            | SPQ | SPQ               |
| Pitch = 15.0 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 15.0 mm   |
| 0.051                                                        | 6.5 x 15.5 (17.0) x 18.5                                                             | 1.3         | 52513                                     | 1500         | 56513                      | 750 | 900               |
| 0.056                                                        |                                                                                      |             | 52563                                     |              | 56563                      |     |                   |
| 0.062                                                        |                                                                                      |             | 52623                                     |              | 56623                      |     |                   |
| 0.068                                                        |                                                                                      |             | 52683                                     |              | 56683                      |     |                   |
| 0.075                                                        |                                                                                      |             | 52753                                     |              | 56753                      |     |                   |
| 0.082                                                        |                                                                                      |             | 52823                                     |              | 56823                      |     |                   |
| 0.091                                                        | 7.0 x 16.0 (17.5) x 18.5                                                             | 1.4         | 52913                                     | 1250         | 56913                      | 700 | 800               |
| 0.10                                                         |                                                                                      |             | 52104                                     |              | 56104                      |     |                   |
| 0.11                                                         |                                                                                      |             | 52114                                     |              | 56114                      |     |                   |
| 0.12                                                         |                                                                                      |             | 52124                                     |              | 56124                      |     |                   |
| 0.13                                                         | 7.5 x 16.5 (18.0) x 18.5                                                             | 1.5         | 52134                                     | 1250         | 56134                      | 650 | 800               |
| 0.15                                                         |                                                                                      |             | 52154                                     |              | 56154                      |     |                   |
| 0.16                                                         | 8.0 x 17.0 (18.5) x 18.5                                                             | 1.6         | 52164                                     | 1250         | 56164                      | 600 | 700               |
| 0.18                                                         | 8.5 x 17.5 (19.0) x 18.5                                                             | 1.7         | 52184                                     | 1000         | 56184                      | 550 | 700               |
| 0.20                                                         |                                                                                      |             | 52204                                     |              | 56204                      |     |                   |
| 0.22                                                         | 9.0 x 18.0 (19.5) x 18.5                                                             | 1.8         | 52224                                     | 1000         | 56224                      | 550 | 600               |
| Pitch = 22.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 22.5 mm   |
| 0.24                                                         | 6.5 x 19.5 x 26.0                                                                    | 1.7         | 52244                                     | 750          |                            |     |                   |
| 0.27                                                         | 7.0 x 20.0 x 26.0                                                                    | 1.8         | 52274                                     | 650          |                            |     |                   |
| 0.30                                                         | 7.5 x 20.5 x 26.0                                                                    | 1.9         | 52304                                     | 600          |                            |     |                   |
| 0.33                                                         |                                                                                      |             | 52334                                     |              |                            |     |                   |
| 0.36                                                         | 8.0 x 21.0 x 26.0                                                                    | 2.0         | 52364                                     | 550          |                            |     |                   |
| 0.39                                                         | 8.5 x 21.5 x 26.0                                                                    | 2.1         | 52394                                     | 500          |                            |     |                   |
| 0.43                                                         |                                                                                      |             | 52434                                     |              |                            |     |                   |
| 0.47                                                         | 9.0 x 22.0 x 26.0                                                                    | 2.4         | 52474                                     | 450          |                            |     |                   |
| 0.51                                                         | 9.5 x 22.5 x 26.0                                                                    | 2.5         | 52514                                     | 450          |                            |     |                   |
| 0.56                                                         | 10.0 x 23.0 x 26.0                                                                   | 2.6         | 52564                                     | 400          |                            |     |                   |
| 0.62                                                         | 10.5 x 23.5 x 26.0                                                                   | 2.7         | 52624                                     | 350          |                            |     |                   |
| Pitch = 27.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             |                                           |              | Pitch = 7.5 mm (bent back) |     | Pitch = 27.5 mm   |
| 0.68                                                         | 10.0 x 23.0 x 30.0                                                                   | 5.0         | 52684                                     | 450          |                            |     |                   |
| 0.75                                                         | 10.5 x 23.5 x 30.0                                                                   | 5.0         | 52754                                     | 450          |                            |     |                   |
| 0.82                                                         | 11.0 x 24.0 x 30.0                                                                   | 5.5         | 52824                                     | 400          |                            |     |                   |
| 0.91                                                         | 11.5 x 24.5 x 30.0                                                                   | 5.5         | 52914                                     | 400          |                            |     |                   |
| 1.0                                                          | 12.0 x 25.0 x 30.0                                                                   | 6.0         | 52105                                     | 350          |                            |     |                   |
| 1.1                                                          | 12.5 x 25.5 x 30.0                                                                   | 6.5         | 52115                                     | 350          |                            |     |                   |
| 1.2                                                          | 13.0 x 26.0 x 30.0                                                                   | 6.5         | 52125                                     | 300          |                            |     |                   |



$U_{RDC} = 400 \text{ V}$ ;  $U_{RAC} = 200 \text{ V}$ ;  $U_{p-p} = 560 \text{ V}$  (lock lead); C-tol. =  $\pm 5 \%$

| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING   |      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------------|------|
|                                                              |                                                                                 |             | LOOSE IN BOX                                |      |
|                                                              |                                                                                 |             | l <sub>t</sub> = 4.0 mm + 1.0 mm / - 0.5 mm |      |
|                                                              |                                                                                 |             |                                             | SPQ  |
| Pitch = 10.0 mm ± 1.0 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                 |             |                                             |      |
| 0.022<br>0.024<br>0.027<br>0.030<br>0.033                    | 6.0 x 18.0 x 12.5                                                               | 0.9         | 90153                                       | 1400 |
|                                                              |                                                                                 |             | 90154                                       |      |
|                                                              |                                                                                 |             | 90155                                       |      |
|                                                              |                                                                                 |             | 90156                                       |      |
|                                                              |                                                                                 |             | 90157                                       |      |
| 0.036<br>0.039<br>0.043<br>0.047                             | 6.0 x 18.0 x 12.5                                                               | 0.9         | 90158                                       | 1400 |
|                                                              |                                                                                 |             | 90159                                       |      |
|                                                              |                                                                                 |             | 90161                                       |      |
|                                                              |                                                                                 |             | 90162                                       |      |
| Pitch = 15.0 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.051<br>0.056<br>0.062<br>0.068<br>0.075<br>0.082           | 6.5 x 18.5 x 18.5                                                               | 1.3         | 90163                                       | 1250 |
|                                                              |                                                                                 |             | 90164                                       |      |
|                                                              |                                                                                 |             | 90165                                       |      |
|                                                              |                                                                                 |             | 90166                                       |      |
|                                                              |                                                                                 |             | 90167                                       |      |
|                                                              |                                                                                 |             | 90168                                       |      |
| 0.091<br>0.10<br>0.11<br>0.12                                | 7.0 x 19.0 x 18.5                                                               | 1.4         | 90169                                       | 1250 |
|                                                              |                                                                                 |             | 90171                                       |      |
|                                                              |                                                                                 |             | 90172                                       |      |
|                                                              |                                                                                 |             | 90173                                       |      |
| 0.13<br>0.15                                                 | 7.5 x 19.5 x 18.5                                                               | 1.5         | 90174                                       | 1000 |
|                                                              |                                                                                 |             | 90175                                       |      |
| 0.16                                                         | 8.0 x 20.0 x 18.5                                                               | 1.6         | 90176                                       | 1000 |
| 0.18<br>0.20                                                 | 8.5 x 20.5 x 18.5                                                               | 1.7         | 90177                                       | 900  |
|                                                              |                                                                                 |             | 90178                                       |      |
| 0.22                                                         | 9.0 x 21.0 x 18.5                                                               | 1.8         | 90179                                       | 800  |
| Pitch = 22.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.24                                                         | 6.5 x 22.5 x 26.0                                                               | 1.7         | 90181                                       | 900  |
| 0.27                                                         | 7.0 x 23.0 x 26.0                                                               | 1.8         | 90182                                       | 850  |
| 0.30<br>0.33                                                 | 7.5 x 23.5 x 26.0                                                               | 1.9         | 90183                                       | 750  |
|                                                              |                                                                                 |             | 90184                                       |      |
| 0.36                                                         | 8.0 x 24.0 x 26.0                                                               | 2.0         | 90185                                       | 700  |
| 0.39<br>0.43                                                 | 8.5 x 24.5 x 26.0                                                               | 2.1         | 90186                                       | 650  |
|                                                              |                                                                                 |             | 90187                                       |      |
| 0.47                                                         | 9.0 x 25.0 x 26.0                                                               | 2.4         | 90188                                       | 600  |
| 0.51                                                         | 9.5 x 25.5 x 26.0                                                               | 2.5         | 90189                                       | 550  |
| 0.56                                                         | 10.0 x 26.0 x 26.0                                                              | 2.6         | 90191                                       | 500  |
| 0.62                                                         | 10.5 x 26.5 x 26.0                                                              | 2.7         | 90192                                       | 500  |
| Pitch = 27.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.68                                                         | 10.0 x 26.0 x 30.0                                                              | 5.0         | 90193                                       | 400  |
| 0.75                                                         | 10.5 x 26.5 x 30.0                                                              | 5.0         | 90194                                       | 400  |
| 0.82                                                         | 11.0 x 27.0 x 30.0                                                              | 5.5         | 90195                                       | 350  |
| 0.91                                                         | 11.5 x 27.5 x 30.0                                                              | 5.5         | 90196                                       | 350  |
| 1.0                                                          | 12.0 x 28.0 x 30.0                                                              | 6.0         | 90086                                       | 350  |
| 1.1                                                          | 12.5 x 28.5 x 30.0                                                              | 6.5         | 90197                                       | 300  |
| 1.2                                                          | 13.0 x 29.0 x 30.0                                                              | 6.5         | 90198                                       | 300  |

SPECIFIC REFERENCE DATA (630 V<sub>DC</sub>)

| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                              | VALUE                    |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| Tangent of loss angle:<br>0.01 $\mu\text{F} < C \leq 0.027 \mu\text{F}$<br>0.027 $\mu\text{F} < C \leq 0.075 \mu\text{F}$<br>0.075 $\mu\text{F} < C \leq 0.11 \mu\text{F}$<br>0.11 $\mu\text{F} < C \leq 0.18 \mu\text{F}$<br>0.18 $\mu\text{F} < C \leq 0.3 \mu\text{F}$<br>0.3 $\mu\text{F} < C \leq 0.47 \mu\text{F}$<br>0.47 $\mu\text{F} < C \leq 0.68 \mu\text{F}$ | at 10 kHz                | at 100 kHz               |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 20 \times 10^{-4}$ |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 25 \times 10^{-4}$ |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 30 \times 10^{-4}$ |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 35 \times 10^{-4}$ |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 40 \times 10^{-4}$ |
|                                                                                                                                                                                                                                                                                                                                                                          | $\leq 10 \times 10^{-4}$ | $\leq 60 \times 10^{-4}$ |
| Rated voltage pulse slope (dU/dt) <sub>R</sub> at 630 V <sub>DC</sub> :<br>P = 10.0 mm<br>P = 15.0 mm<br>P = 22.5 mm<br>P = 27.5 mm                                                                                                                                                                                                                                      | 100 V/ $\mu\text{s}$     |                          |
|                                                                                                                                                                                                                                                                                                                                                                          | 90 V/ $\mu\text{s}$      |                          |
|                                                                                                                                                                                                                                                                                                                                                                          | 45 V/ $\mu\text{s}$      |                          |
|                                                                                                                                                                                                                                                                                                                                                                          | 30 V/ $\mu\text{s}$      |                          |
| R between leads, for $C \leq 1.0 \mu\text{F}$ at 500 V; 1 min                                                                                                                                                                                                                                                                                                            | > 100 000 M $\Omega$     |                          |
| R between leads and case; 500 V; 1 min                                                                                                                                                                                                                                                                                                                                   | > 100 000 M $\Omega$     |                          |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge                                                                                                                                                                                                                                                                                                          | > 220 V                  |                          |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s <sup>(1)</sup>                                                                                                                                                                                                                                                                                      | 1008 V; 1 min            |                          |
| Withstanding (DC) voltage between leads and case                                                                                                                                                                                                                                                                                                                         | 2840 V; 1 min            |                          |

## Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": [www.vishay.com/doc?28169](http://www.vishay.com/doc?28169)

**U<sub>RDC</sub> = 630 V; U<sub>RAC</sub> = 200 V; U<sub>p-p</sub> = 560 V (standard); C-tol. =  $\pm 5 \%$**

| C<br>(μF)                                                                              | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |                            |                          |                 |                   |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|----------------------------|--------------------------|-----------------|-------------------|
|                                                                                        |                                                                                      |             | LOOSE IN BOX                              |                            | REEL                     |                 |                   |
|                                                                                        |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS               | PITCH 7.5 mm (BENT BACK) |                 | ORIGINAL<br>PITCH |
|                                                                                        |                                                                                      |             |                                           | SPQ                        |                          | SPQ             | SPQ               |
| Pitch = 10.0 mm ± 0.4 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm                           |                                                                                      |             |                                           | Pitch = 7.5 mm (bent back) |                          | Pitch = 10.0 mm |                   |
| 0.010<br>0.011<br>0.012<br>0.013<br>0.015<br>0.016<br>0.018<br>0.020<br>0.022<br>0.024 | 6.0 x 15.0 x 12.5                                                                    | 0.9         | 62103                                     | 1000                       |                          |                 | 1000              |
| 62113                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62123                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62133                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62153                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62163                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62183                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62203                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62223                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 62243                                                                                  |                                                                                      |             |                                           |                            |                          |                 |                   |
| 0.027                                                                                  | 6.5 x 15.5 x 12.5                                                                    | 1.0         | 62273                                     | 1000                       |                          |                 | 900               |
| Pitch = 15.0 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm                           |                                                                                      |             |                                           | Pitch = 7.5 mm (bent back) |                          | Pitch = 15.0 mm |                   |
| 0.030<br>0.033<br>0.036<br>0.039<br>0.043<br>0.047<br>0.051<br>0.056                   | 6.5 x 15.5 (17.0) x 18.5                                                             | 1.3         | 62303                                     | 1500                       | 66303                    | 750             | 900               |
| 62333                                                                                  |                                                                                      |             | 66333                                     |                            |                          |                 |                   |
| 62363                                                                                  |                                                                                      |             | 66363                                     |                            |                          |                 |                   |
| 62393                                                                                  |                                                                                      |             | 66393                                     |                            |                          |                 |                   |
| 62433                                                                                  |                                                                                      |             | 66433                                     |                            |                          |                 |                   |
| 62473                                                                                  |                                                                                      |             | 66473                                     |                            |                          |                 |                   |
| 62513                                                                                  |                                                                                      |             | 66513                                     |                            |                          |                 |                   |
| 62563                                                                                  |                                                                                      |             | 66563                                     |                            |                          |                 |                   |
| 0.062                                                                                  | 7.0 x 16.0 (17.5) x 18.5                                                             | 1.4         | 62623                                     | 1250                       | 66623                    | 700             | 800               |
| 0.068                                                                                  | 7.5 x 16.5 (18.0) x 18.5                                                             | 1.5         | 62683                                     | 1250                       | 66683                    | 650             | 800               |
| 0.075<br>0.082                                                                         | 8.0 x 17.0 (18.5) x 18.5                                                             | 1.6         | 62753                                     | 1250                       | 66753                    | 600             | 700               |
| 62823                                                                                  |                                                                                      |             | 66823                                     |                            |                          |                 |                   |
| 0.091                                                                                  | 8.5 x 17.5 (19.0) x 18.5                                                             | 1.7         | 62913                                     | 1000                       | 66913                    | 550             | 700               |
| 0.10                                                                                   | 9.0 x 18.0 (19.5) x 18.5                                                             | 1.8         | 62104                                     | 1000                       | 66104                    | 550             | 600               |
| 0.11                                                                                   | 9.5 x 18.5 (20.0) x 18.5                                                             | 1.9         | 62114                                     | 900                        | 66114                    | 500             | 600               |



| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h (h') <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING |              |                          |                 |                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|-------------------------------------------|--------------|--------------------------|-----------------|-------------------|
|                                                              |                                                                                      |             | LOOSE IN BOX                              |              | REEL                     |                 |                   |
|                                                              |                                                                                      |             | l <sub>t</sub> = 5.0 mm ± 1.0 mm          | ALL<br>LEADS | PITCH 7.5 mm (BENT BACK) |                 | ORIGINAL<br>PITCH |
|                                                              |                                                                                      |             |                                           | SPQ          |                          | SPQ             | SPQ               |
| Pitch = 22.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             | Pitch = 7.5 mm (bent back)                |              |                          | Pitch = 10.0 mm |                   |
| 0.12                                                         | 6.5 x 19.5 x 26.0                                                                    | 1.7         | 62124                                     | 750          |                          |                 |                   |
| 0.13                                                         | 7.0 x 20.0 x 26.0                                                                    | 1.8         | 62134                                     | 650          |                          |                 |                   |
| 0.15                                                         | 7.5 x 20.5 x 26.0                                                                    | 1.9         | 62154                                     | 600          |                          |                 |                   |
| 0.16                                                         |                                                                                      |             | 62164                                     |              |                          |                 |                   |
| 0.18                                                         | 8.0 x 21.0 x 26.0                                                                    | 2.0         | 62184                                     | 550          |                          |                 |                   |
| 0.20                                                         | 8.5 x 21.5 x 26.0                                                                    | 2.1         | 62204                                     | 500          |                          |                 |                   |
| 0.22                                                         | 9.0 x 22.0 x 26.0                                                                    | 2.4         | 62224                                     | 450          |                          |                 |                   |
| 0.24                                                         |                                                                                      |             | 62244                                     |              |                          |                 |                   |
| 0.27                                                         | 9.5 x 22.5 x 26.0                                                                    | 2.5         | 62274                                     | 450          |                          |                 |                   |
| 0.30                                                         | 10.0 x 23.0 x 26.0                                                                   | 2.7         | 62304                                     | 400          |                          |                 |                   |
| Pitch = 27.5 mm ± 0.4 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                      |             | Pitch = 7.5 mm (bent back)                |              |                          | Pitch = 10.0 mm |                   |
| 0.33                                                         | 9.5 x 22.5 x 30.0                                                                    | 5.0         | 62334                                     | 550          |                          |                 |                   |
| 0.36                                                         | 10.0 x 22.5 x 30.0                                                                   | 5.0         | 62364                                     | 500          |                          |                 |                   |
| 0.39                                                         | 10.5 x 23.0 x 30.0                                                                   | 5.0         | 62394                                     | 450          |                          |                 |                   |
| 0.43                                                         | 11.0 x 23.0 x 30.0                                                                   | 5.5         | 62434                                     | 450          |                          |                 |                   |
| 0.47                                                         | 11.5 x 24.5 x 30.0                                                                   | 5.5         | 62474                                     | 400          |                          |                 |                   |
| 0.51                                                         | 12.0 x 25.0 x 30.0                                                                   | 6.0         | 62514                                     | 350          |                          |                 |                   |
| 0.56                                                         | 13.0 x 26.0 x 30.0                                                                   | 6.5         | 62564                                     | 300          |                          |                 |                   |
| 0.62                                                         | 13.5 x 26.5 x 30.0                                                                   | 6.5         | 62624                                     | 300          |                          |                 |                   |
| 0.68                                                         | 14.0 x 27.0 x 30.0                                                                   | 7.0         | 62684                                     | 300          |                          |                 |                   |

$U_{RDC} = 630 \text{ V}$ ;  $U_{RAC} = 200 \text{ V}$ ;  $U_{p-p} = 560 \text{ V}$  (lock lead); C-tol. =  $\pm 5 \%$

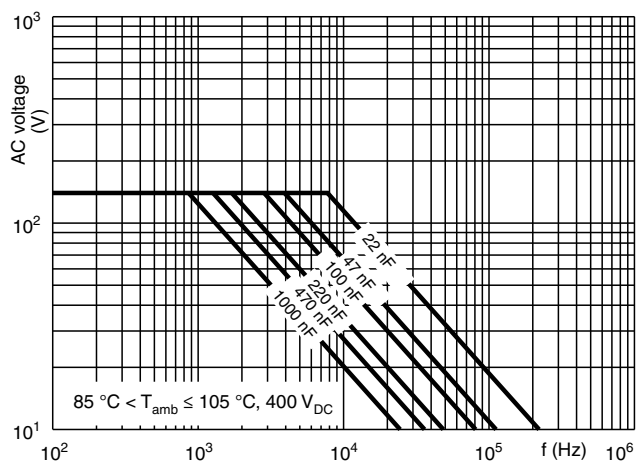
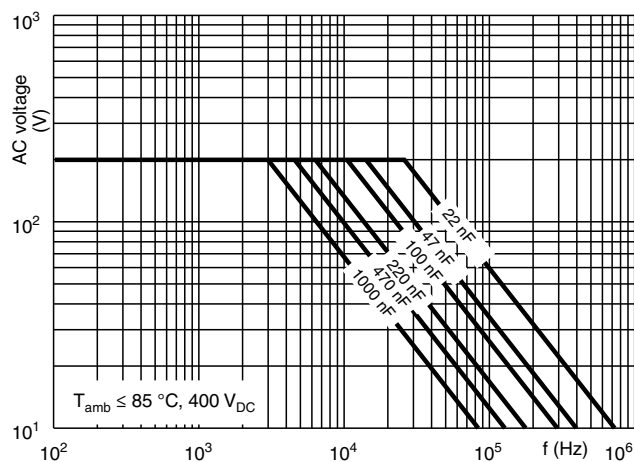
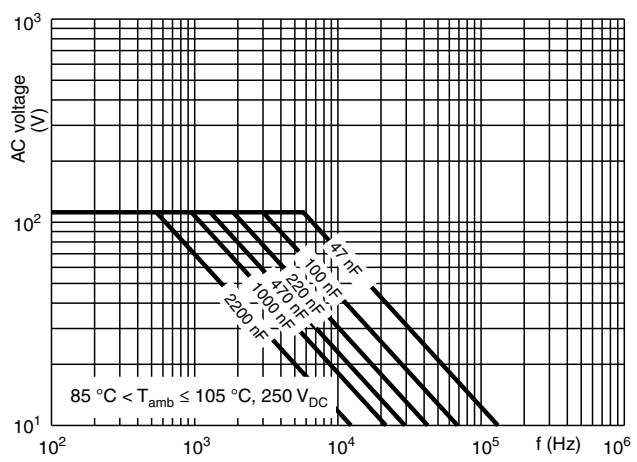
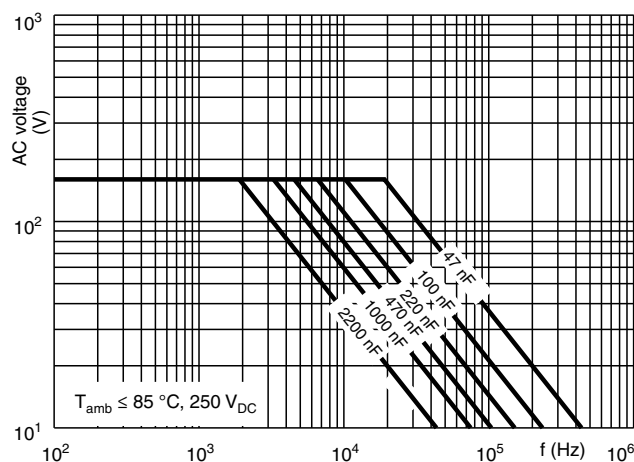
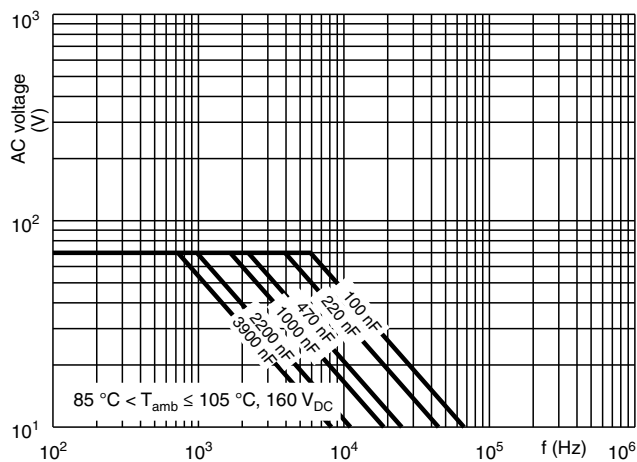
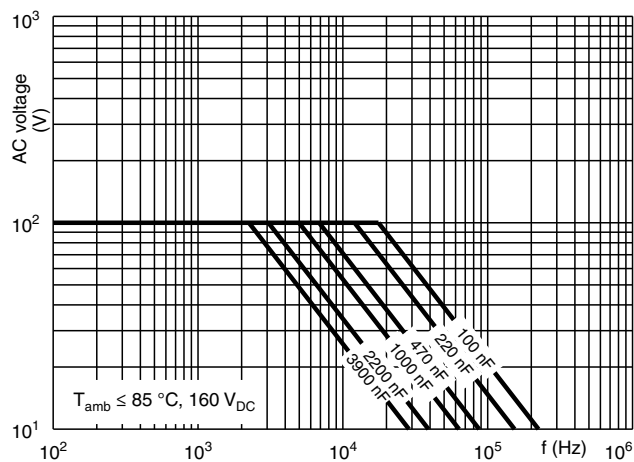
| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING   |      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------------|------|
|                                                              |                                                                                 |             | LOOSE IN BOX                                |      |
|                                                              |                                                                                 |             | l <sub>t</sub> = 4.0 mm + 1.0 mm / - 0.5 mm |      |
|                                                              |                                                                                 |             |                                             | SPQ  |
| Pitch = 10.0 mm ± 1.0 mm; d <sub>t</sub> = 0.60 mm ± 0.06 mm |                                                                                 |             |                                             |      |
| 0.010                                                        | 6.0 x 18.0 x 12.5                                                               | 0.9         | 90199                                       | 1400 |
| 0.011                                                        |                                                                                 |             | 90201                                       |      |
| 0.012                                                        |                                                                                 |             | 90202                                       |      |
| 0.013                                                        |                                                                                 |             | 90203                                       |      |
| 0.015                                                        |                                                                                 |             | 90204                                       |      |
| 0.016                                                        |                                                                                 |             | 90205                                       |      |
| 0.018                                                        |                                                                                 |             | 90206                                       |      |
| 0.020                                                        |                                                                                 |             | 90207                                       |      |
| 0.022                                                        |                                                                                 |             | 90208                                       |      |
| 0.024                                                        |                                                                                 |             | 90209                                       |      |
| 0.027                                                        | 6.5 x 18.5 x 12.5                                                               | 1.0         | 90211                                       | 1250 |

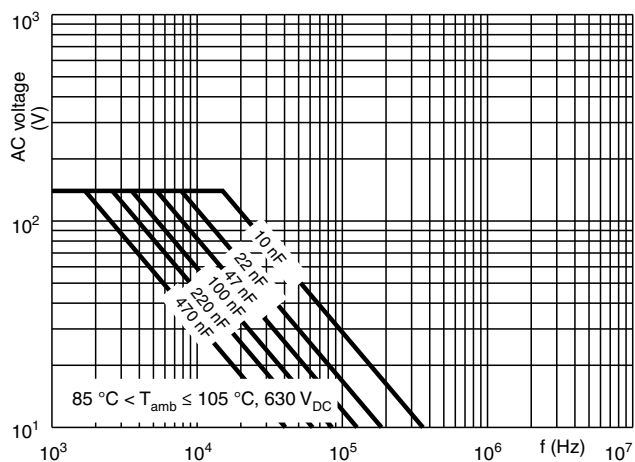
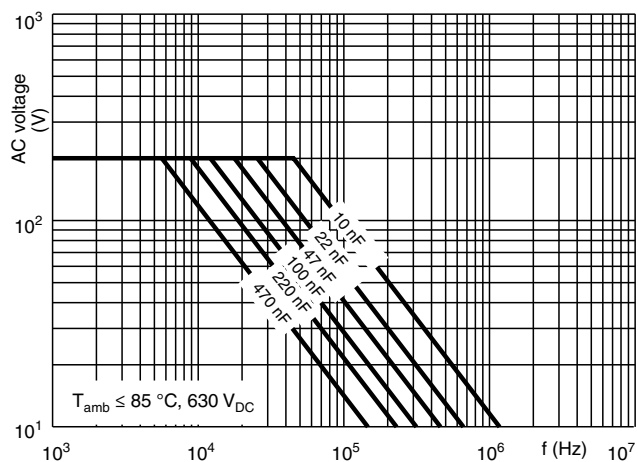


| C<br>(μF)                                                    | DIMENSIONS<br>w <sub>max.</sub> x h <sub>max.</sub> x l <sub>max.</sub><br>(mm) | MASS<br>(g) | CATALOG NUMBER BFC2479..... AND PACKAGING   |      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------------|------|
|                                                              |                                                                                 |             | LOOSE IN BOX                                |      |
|                                                              |                                                                                 |             | l <sub>t</sub> = 4.0 mm + 1.0 mm / - 0.5 mm |      |
|                                                              |                                                                                 |             |                                             | SPQ  |
| Pitch = 15.0 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.030                                                        | 6.5 x 18.5 x 18.5                                                               | 1.3         | 90212                                       | 1250 |
| 0.033                                                        |                                                                                 |             | 90213                                       |      |
| 0.036                                                        |                                                                                 |             | 90214                                       |      |
| 0.039                                                        |                                                                                 |             | 90215                                       |      |
| 0.043                                                        |                                                                                 |             | 90216                                       |      |
| 0.047                                                        |                                                                                 |             | 90217                                       |      |
| 0.051                                                        |                                                                                 |             | 90218                                       |      |
| 0.056                                                        |                                                                                 |             | 90219                                       |      |
| 0.062                                                        | 7.0 x 19.0 x 18.5                                                               | 1.4         | 90221                                       | 1250 |
| 0.068                                                        | 7.5 x 19.5 x 18.5                                                               | 1.5         | 90222                                       | 1000 |
| 0.075                                                        | 8.0 x 20.0 x 18.5                                                               | 1.6         | 90223                                       | 1000 |
| 0.082                                                        |                                                                                 |             | 90224                                       |      |
| 0.091                                                        | 8.5 x 20.5 x 18.5                                                               | 1.7         | 90225                                       | 900  |
| 0.10                                                         | 9.0 x 21.0 x 18.5                                                               | 1.8         | 90226                                       | 800  |
| 0.11                                                         | 9.5 x 21.5 x 18.5                                                               | 1.9         | 90227                                       | 800  |
| Pitch = 22.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.12                                                         | 6.5 x 22.5 x 26.0                                                               | 1.7         | 90228                                       | 900  |
| 0.13                                                         | 7.0 x 23.0 x 26.0                                                               | 1.8         | 90229                                       | 850  |
| 0.15                                                         | 7.5 x 23.5 x 26.0                                                               | 1.9         | 90231                                       | 750  |
| 0.16                                                         |                                                                                 |             | 90232                                       |      |
| 0.18                                                         | 8.0 x 24.0 x 26.0                                                               | 2.0         | 90233                                       | 700  |
| 0.20                                                         | 8.5 x 24.5 x 26.0                                                               | 2.1         | 90234                                       | 650  |
| 0.22                                                         | 9.0 x 25.0 x 26.0                                                               | 2.4         | 90235                                       | 600  |
| 0.24                                                         |                                                                                 |             | 90236                                       |      |
| 0.27                                                         | 9.5 x 25.5 x 26.0                                                               | 2.5         | 90237                                       | 550  |
| 0.30                                                         | 10.0 x 26.0 x 26.0                                                              | 2.7         | 90238                                       | 500  |
| Pitch = 27.5 mm ± 1.0 mm; d <sub>t</sub> = 0.80 mm ± 0.08 mm |                                                                                 |             |                                             |      |
| 0.33                                                         | 9.5 x 25.5 x 30.0                                                               | 5.0         | 90239                                       | 450  |
| 0.36                                                         | 10.0 x 25.5 x 30.0                                                              | 5.0         | 90241                                       | 450  |
| 0.39                                                         | 10.5 x 26.0 x 30.0                                                              | 5.0         | 90242                                       | 400  |
| 0.43                                                         | 11.0 x 26.0 x 30.0                                                              | 5.5         | 90243                                       | 400  |
| 0.47                                                         | 11.5 x 27.5 x 30.0                                                              | 5.5         | 90244                                       | 350  |
| 0.51                                                         | 12.0 x 28.0 x 30.0                                                              | 6.0         | 90245                                       | 350  |
| 0.56                                                         | 13.0 x 29.0 x 30.0                                                              | 6.5         | 90246                                       | 300  |
| 0.62                                                         | 13.5 x 29.5 x 30.0                                                              | 6.5         | 90247                                       | 250  |
| 0.68                                                         | 14.0 x 30.0 x 30.0                                                              | 7.0         | 90248                                       | 250  |

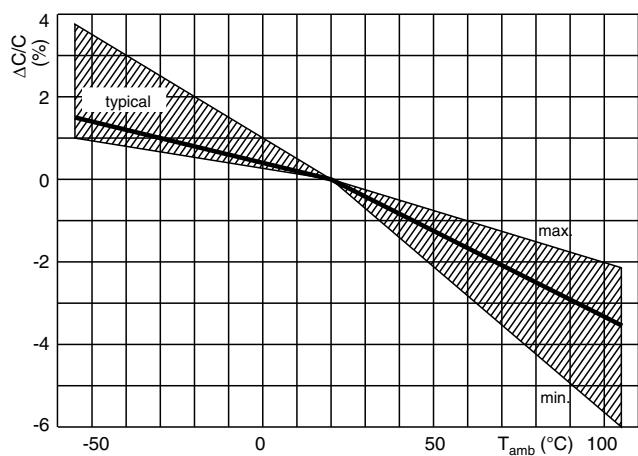


MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY

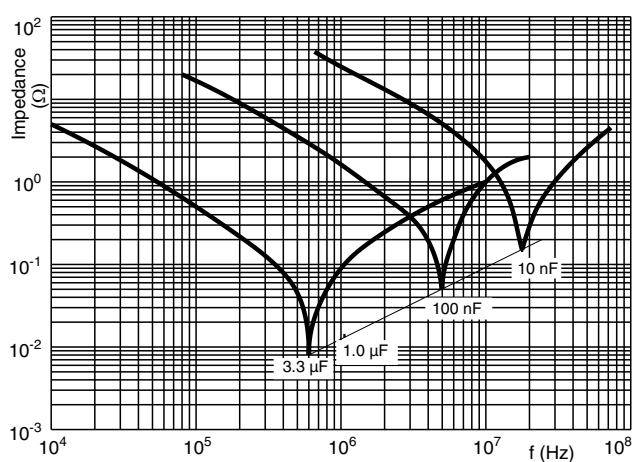




## CAPACITANCE



## IMPEDANCE







## Disclaimer

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