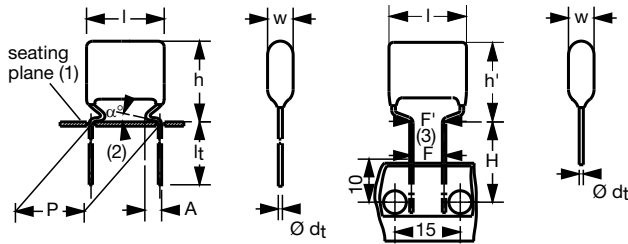


AC and Pulse Metallized Polypropylene Film Capacitors KP/MKP Radial Lacquered Type



Dimensions in mm

(1) Hole \varnothing 1.3 for $d_t = 0.8$ mm

(2) $0 \leq \alpha < 50^\circ$

(3) $|F - F'| < 0.3$ mm

$F = 7.5 + 0.6 / - 0.1$ mm

(4) $A = 2.0 + 1.0 / - 0.5$ mm for 10 mm pitch

$A = 2.5 + 1.5 / - 0.5$ mm for 15 mm pitch

$A = 2.5 + 1.4 / - 0.5$ mm for pitch > 22.5 mm



Dimensions in mm

APPLICATIONS

Where high currents and steep pulses occur. For deflection circuits in television sets.

REFERENCE SPECIFICATIONS

IEC 60384-17

MARKING

C-value; tolerance; rated voltage; manufacturer's type; manufacturer's location

DIELECTRIC

Polypropylene film

ELECTRODES

Metallized and aluminum

CONSTRUCTION

Internal serial construction

RATED (DC) VOLTAGE

630 V, 1000 V, 1600 V, 2000 V

RATED (AC) VOLTAGE

300 V, 400 V, 500 V, 600 V

RATED PEAK-TO-PEAK VOLTAGE

850 V, 1100 V, 1400 V, 1700 V

FEATURES

- 10 mm to 27.5 mm pitch
- Supplied loose in box (including lock lead versions) and taped
- Bent back version for automatic insertion available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

ENCAPSULATION

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

CLIMATIC TESTING CLASS ACCORDING TO IEC 60068-1

55/105/56

CAPACITANCE RANGE (E24 SERIES)

0.1 nF to 270 nF

CAPACITANCE TOLERANCE

$\pm 5\%$; $\pm 3.5\%$

LEADS

Tinned wire

RATED TEMPERATURE

85 °C

MAXIMUM APPLICATION TEMPERATURE

105 °C

PERFORMANCE GRADE

for $C > 5.6$ nF: grade 1 (long life)

for $C \leq 5.6$ nF: grade 2

STABILITY GRADE

Grade 2

DETAIL SPECIFICATION

For more detailed data and test requirements contact:

dc-film@vishay.com



COMPOSITION OF CATALOG NUMBER



| TYPE | PACKAGING | LEAD CONFIGURATION | PREFERRED TYPES | | | | |
|------------|--|--|-----------------|-------|--------|--------|--------|
| | | | C-TOL. | 630 V | 1000 V | 1600 V | 2000 V |
| 375 | Loose in box | Lead length 5.0 mm ± 1.0 mm | ± 5 % | 14 | 24 | 34 | 44 |
| | | Lock lead 4.0 mm + 1.0/- 0.5 mm | ± 5 % | 90 | 90 | 90 | 90 |
| | Taped on reel ⁽²⁾ (bent back) | H = 16.0 mm; P ₀ = 15.0 mm; Reel diameter 500 mm | ± 5 % | 16 | 26 | 36 | 46 |
| ON REQUEST | | | | | | | |
| 375 | Loose in box | Lead length 5.0 ± 1.0 mm | ± 3.5 % | 15 | 25 | 35 | 45 |
| | | Lead length 3.5 ± 0.5 mm | ± 5 % | 10 | 20 | 30 | 40 |
| | | | ± 3.5 % | 11 | 21 | 31 | 41 |
| | Taped on reel ⁽²⁾ | H = 16.0 mm; P ₀ = 12.7 mm; Reel diameter = 500 mm | ± 5 % | 12 | 22 | 32 | 42 |
| | | | ± 3.5 % | 13 | 23 | 33 | 43 |
| | Taped on reel ⁽²⁾ (bent back) | H = 16.0 mm; P ₀ = 15.0 mm; Reel diameter = 500 mm | ± 3.5 % | 17 | 27 | 37 | 47 |
| | H = 16.0 mm; P ₀ = 15.0 mm; Reel diameter = 356 mm | ± 5 % | 18 | 28 | 38 | 48 | |

Note

⁽²⁾ For detailed tape specifications refer to “Packaging Information” www.vishay.com/doc?28139 or end of catalog

SPECIFIC REFERENCE DATA (630 V_{DC})

| DESCRIPTION | VALUE | |
|---|---------------|---------|
| | 10 kHz | 100 kHz |
| Tangent of loss angle at (x 10 ⁻⁴) | | |
| Pitch = 10 mm, 15 mm, and 7.5 mm (bent back) | ≤ 6 | ≤ 10 |
| Pitch = 22.5 mm | ≤ 8 | ≤ 15 |
| Pitch = 27.5 mm | ≤ 8 | ≤ 20 |
| Rated voltage pulse slope (dU/dt) _R : | | |
| Pitch = 10 mm | 15 000 V/μs | |
| Pitch = 15 mm and 7.5 mm (bent back) | 8000 V/μs | |
| Pitch = 22.5 mm | 2800 V/μs | |
| Pitch = 27.5 mm | 1900 V/μs | |
| R between leads at 500 V, 1 min | > 100 000 MΩ | |
| R between interconnected leads and case, 500 V, 1 min | > 100 000 MΩ | |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge | | |
| at 50 pC peak discharge | > 400 V | |
| at 20 pC peak discharge | | |
| Withstanding (DC) voltage (cut off current 10 mA), rise time 1000 V/s | | |
| for C ≤ 47 nF | 1008 V, 1 min | |
| for C > 47 nF | | |
| Withstanding (DC) voltage between leads and case | 2840 V, 1 min | |
| Maximum application temperature | 105 °C | |



U_{RDC} = 630 V; U_{RAC} = 300 V; U_{PP} = 850 V (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|------------------------------|--|-----------------------------|---|-----------------------------------|----------------------------|--|-------------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (pF) | PITCH = 10.0 mm ± 0.4 mm; d_t = 0.60 mm ± 0.06 mm | | PITCH = 10.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 680 750 | 5.0 x 13.0 x 14.5 | 0.65 | 14... (2000) | 12... (1200) | | 681 751 | |
| 820 910 1000 | 5.5 x 13.5 x 14.5 | 0.70 | 14... (2000) | 12... (1100) | | 821 911 102 | |
| 1100 1200 1300 | | 0.75 | | | | 112 122 132 | |
| 1500 1600 | | 0.80 0.85 | | | | 152 162 | |
| 1800 2000 2200 2400 | | 0.80 0.85 0.90 1.0 | | | | 14... (1750) | 12... (1000) |
| 2700 | 6.5 x 14.5 x 14.5 | 1.1 | 14... (1500) | 12... (900) | | 272 | |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



U_{RDC} = 630 V; U_{RAC} = 300 V; U_{pp} = 850 (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|--|--|----------------------------|---|-----------------|-----------------------------------|----------------|---|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 7.5 mm (BENT BACK) | | | | |
| 3000 3300 | 5.0 x 14.0 (16.0) x 18.5 | 1.0 | 14... (2000) | 12... (1200) | 16... (1000) | 18... (550) | 302 332 |
| 3600 3900 4300 4700 5100 5600 | 5.5 x 14.5 (16.0) x 18.5 | 1.1 | 14... (2000) | 12... (1100) | 16... (900) | 18... (500) | 362 392 432 472 512 562 |
| 6200 6800 7500 8200 9100 10 000 11 000 12 000 13 000 15 000 16 000 | 6.0 x 15.0 (16.0) x 18.5 | 1.2 | 14... (2000) | 12... (1000) | 16... (800) | 18... (450) | 622 682 752 822 912 103 113 123 133 153 163 |
| 18 000 20 000 | 6.5 x 15.5 (17.0) x 18.5 | 1.3 | 14... (1500) | 12... (900) | 16... (750) | 18... (400) | 183 203 |
| 22 000 | 7.0 x 16.0 (17.5) x 18.5 | 1.5 | 14... (1500) | 12... (800) | 16... (700) | 18... (400) | 223 |
| 24 000 | 7.5 x 16.5 (18.0) x 18.5 | 1.6 | 14... (1250) | 12... (800) | 16... (650) | 18... (350) | 243 |
| 27 000 30 000 | 8.0 x 17.0 (18.5) x 18.5 | 1.9 | 14... (1250) | 12... (750) | 16... (600) | 18... (350) | 273 303 |
| 33 000 | 8.5 x 17.5 (19.0) x 18.5 | 2 | 14... (1000) | 12... (700) | 16... (550) | 18... (300) | 333 |
| 36 000 39 000 | 9.0 x 18.5 (20.0) x 18.5 | 2.3 | 14... (900) | 12... (600) | 16... (500) | 18... (300) | On request |
| C (µF) | PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 22.5 mm | | PITCH = 7.5 mm (BENT BACK) | | |
| 0.036 0.039 0.043 0.047 0.051 0.056 0.062 | 7.0 x 20.0 x 26.0 | 2.7 | 14... (650) | - | - | - | 363 393 433 473 513 563 623 |
| 0.068 | 7.5 x 20.5 x 26.0 | 3 | 14... (600) | - | - | - | 683 |
| 0.075 0.082 | 8.0 x 21.0 x 26.0 | 3.3 | 14... (550) | - | - | - | 753 823 |
| 0.091 | 8.5 x 21.5 x 26.0 | 3.8 | 14... (500) | - | - | - | 913 |
| 0.1 | 9.0 x 22.0 x 26.0 | 4 | 14... (450) | - | - | - | 104 |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



U_{RDC} = 630 V; U_{RAC} = 300 V; U_{PP} = 850 (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | |
|---------------|--|----------------------------|---|-----------------------------------|----------------|----------------------------|----------|
| | | | LOOSE IN BOX | | REEL | | C VALUE |
| | | | LEADS 5 mm ± 1.0 mm | | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | |
| | | | XX (SPQ) | XX (SPQ) | Ø 500 mm | Ø 500 mm | Ø 356 mm |
| C (µF) | PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 22.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.11 | 9.5 x 22.5 x 26.0 | 4.3 | 14... (400) | - | - | 114 | |
| 0.12 | 10.0 x 23.0 x 26.0 | 4.7 | 14... (400) | - | - | 124 | |
| C (µF) | PITCH = 27.5 mm ± 0.5 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 27.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.13 | 9.5 x 22.5 x 30.0 | 4.7 | 14... (500) | - | - | 134 | |
| 0.15 | 10.0 x 23.0 x 30.0 | 5.2 | 14... (500) | - | - | 154 | |
| 0.16 | 10.5 x 23.5 x 30.0 | 5.5 | 14... (450) | - | - | 164 | |
| 0.18 | 11.0 x 24.0 x 30.0 | 6 | 14... (400) | - | - | 184 | |
| 0.2 | 11.5 x 24.5 x 30.0 | 6.6 | 14... (400) | - | - | 204 | |
| 0.22 | 12.5 x 25.5 x 30.0 | 7.1 | 14... (350) | - | - | 224 | |
| 0.24 | 13.0 x 26.0 x 30.0 | 7.7 | 14... (300) | - | - | 244 | |
| 0.27 | 13.5 x 26.5 x 30.0 | 8.5 | 14... (300) | - | - | 274 | |

Notes

- Loose in box, all lengths have same SPQ
- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only

U_{RDC} = 630 V; U_{RAC} = 300 V; U_{PP} = 850 V (LOCK LEAD); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | |
|---------------|--------------------------------------|----------------------------|--|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | | | PITCH = 10.0 mm ± 1.0 mm; d_t = 0.60 mm ± 0.06 mm | |
| 680 | 5.0 x 16.0 x 14.5 | 0.65 | 90308 | (2000) |
| 750 | | | 90309 | |
| 820 | 5.5 x 16.5 x 14.5 | 0.7 | 90311 | (2000) |
| 910 | | 0.7 | 90312 | |
| 1000 | | 0.7 | 90313 | |
| 1100 | | 0.75 | 90314 | |
| 1300 | | 0.75 | 90316 | |
| 1500 | | 0.80 | 90317 | |
| 1600 | | 0.85 | 90318 | |
| 1800 | | 6.0 x 17.0 x 14.5 | 0.80 | |
| 2000 | 0.85 | | 90321 | |
| 2200 | 0.90 | | 90322 | |
| 2400 | 1.0 | | 90323 | |
| 2700 | 1.1 | | 90324 | (1500) |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



U_{RDC} = 630 V; U_{RAC} = 300 V; U_{PP} = 850 V (LOCK LEAD); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|--|--|----------------------------|---|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 3000 3300 | 5.0 x 17.0 x 18.5 | 1 | 90325 90326 | (2000) |
| 3600 3900 4300 4700 5100 5600 | 5.5 x 17.5 x 18.5 | 1.1 | 90327 90328 90329 90331 90332 90333 | (2000) |
| 6200 6800 7500 8200 9100 10 000 11 000 12 000 13 000 15 000 16 000 | 6.0 x 18.0 x 18.5 | 1.3 | 90334 90335 90336 90337 90338 90339 90236 90341 90342 90343 90344 | (2000) |
| 18 000 20 000 | 6.5 x 18.5 x 18.5 | 1.4 | 90218 90345 | (1750) |
| 22 000 | 7.0 x 19.0 x 18.5 | 1.5 | 90219 | (1500) |
| 24 000 | 7.5 x 19.5 x 18.5 | 1.6 | 90221 | (1400) |
| 27 000 30 000 | 8.0 x 20.0 x 18.5 | 1.9 | 90223 90346 | (1250) |
| 33 000 | 8.5 x 20.5 x 18.5 | 2 | 90347 | (1200) |
| 36 000 39 000 | 9.0 x 21.5 x 18.5 | 2.3 | On request | (1000) |
| C (µF) | PITCH = 22.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 0.036 0.039 0.043 0.047 0.051 0.056 0.062 | 7.0 x 23.0 x 26.0 | 2.7 | 90348 90349 90351 90352 90353 90354 90355 | (600) |
| 0.068 | 7.5 x 23.5 x 26.0 | 3 | 90356 | (550) |
| 0.075 0.082 | 8.0 x 24.0 x 26.0 | 3.3 | 90357 90358 | (500) |
| 0.091 | 8.5 x 24.5 x 26.0 | 3.8 | 90359 | (450) |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|--------|--|----------------------------|---|-------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (μF) | PITCH = 22.5 mm ± 1.0 mm; d _t = 0.80 mm ± 0.08 mm | | | |
| 0.1 | 9.0 x 25.0 x 26.0 | 4.0 | 90361 | (450) |
| 0.11 | 9.5 x 25.5 x 26.0 | 4.3 | 90362 | (400) |
| 0.12 | 10.0 x 26.0 x 26.0 | 4.7 | 90363 | (350) |
| C (μF) | PITCH = 27.5 mm ± 1.0 mm; d _t = 0.80 mm ± 0.08 mm | | | |
| 0.13 | 9.5 x 25.5 x 30.0 | 4.7 | 90364 | (450) |
| 0.15 | 10.0 x 26.0 x 30.0 | 5.2 | 90365 | (400) |
| 0.16 | 10.5 x 26.5 x 30.0 | 5.5 | 90366 | (350) |
| 0.18 | 11.0 x 27.0 x 30.0 | 6.0 | 90367 | (350) |
| 0.2 | 11.5 x 27.5 x 30.0 | 6.6 | 90368 | (350) |
| 0.22 | 12.5 x 28.5 x 30.0 | 7.1 | 90369 | (300) |
| 0.24 | 13.0 x 29.0 x 30.0 | 7.7 | 90371 | (250) |
| 0.27 | 13.5 x 29.5 x 30.0 | 8.5 | 90372 | (250) |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only

SPECIFIC REFERENCE DATA (1000 V_{DC})

| DESCRIPTION | VALUE | |
|---|--|---------|
| | 10 kHz | 100 kHz |
| Tangent of loss angle at (x 10 ⁻⁴) Pitch = 10 mm, 15 mm, and 7.5 mm (bent back) | ≤ 6 | ≤ 10 |
| Pitch = 22.5 mm | ≤ 8 | ≤ 15 |
| Pitch = 27.5 mm | ≤ 8 | ≤ 20 |
| Rated voltage pulse slope (dU/d _t): Pitch = 10 mm | 27 000 V/μs | |
| Pitch = 15 mm and 7.5 mm (bent back) | 15 000 V/μs | |
| Pitch = 22.5 mm | 5000 V/μs | |
| Pitch = 27.5 mm | 3300 V/μs | |
| R between leads at 500 V, 1 min | > 100 000 MΩ | |
| R between interconnected leads and case, 500 V, 1 min | > 100 000 MΩ | |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge at 20 pC peak discharge | > 500 V | |
| Withstanding (DC) voltage (cut off current 10 mA), rise time 1000 V/s for C ≤ 47 nF for C > 47 nF | 1600 V, 1 min [1.6 - (0.0364 x (C - 47))] x 1000 V, 1 min | |
| Withstanding (DC) voltage between leads and case | 2840 V, 1 min | |
| Maximum application temperature | 105 °C | |



U_{RDC} = 1000 V; U_{RAC} = 400 V; U_{PP} = 1100 V (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE |
|---------------|--|----------------------------|---|-----------------------------------|----------------------------|-----------------------|------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | ..YYY | | | |
| C (pF) | PITCH = 10.0 mm ± 0.4 mm; d_t = 0.60 mm ± 0.06 mm | | PITCH = 10.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 100 | 5.0 x 13.0 x 14.5 | 0.5 | 24... (2000) | 22... (1200) | - | - | 101 |
| 110 | | | | | | | 111 |
| 120 | | | | | | | 121 |
| 130 | | | | | | | 131 |
| 150 | | | | | | | 151 |
| 160 | 5.5 x 13.5 x 14.5 | 0.55 | 24... (2000) | 22... (1100) | - | - | 161 |
| 180 | | 181 | | | | | |
| 200 | | 201 | | | | | |
| 220 | | 221 | | | | | |
| 240 | | 241 | | | | | |
| 270 | | 271 | | | | | |
| 300 | | 301 | | | | | |
| 330 | | 331 | | | | | |
| 360 | | 361 | | | | | |
| 390 | | 391 | | | | | |
| 430 | | 431 | | | | | |
| 470 | | 471 | | | | | |
| 510 | | 511 | | | | | |
| 560 | | 561 | | | | | |
| 620 | | 621 | | | | | |
| 680 | 681 | | | | | | |
| 750 | 751 | | | | | | |
| 820 | 821 | | | | | | |
| 910 | 911 | | | | | | |
| 1000 | 6.0 x 14.0 x 14.5 | 0.75 | 24... (1750) | 22... (1000) | - | - | 102 |
| 1100 | | 112 | | | | | |
| 1200 | | 122 | | | | | |
| 1300 | | 132 | | | | | |
| 1500 | | 152 | | | | | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 15.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 1600 | 5.5 x 14.5 (16.0) x 18.5 | 1.1 | 24... (2000) | 22... (1100) | 26... (900) | 28... (500) | 162 |
| 1800 | | | | | | | 182 |
| 2000 | | | | | | | 202 |
| 2200 | | | | | | | 222 |
| 2400 | | | | | | | 242 |
| 2700 | 6.0 x 15.0 (16.5) x 18.5 | 1.2 | 24... (2000) | 22... (1000) | 26... (800) | 28... (450) | 272 |
| 3000 | | | | | | | 302 |
| 3300 | | | | | | | 332 |
| 3600 | | | | | | | 362 |
| 3900 | | | | | | | 392 |
| 4300 | | | | | | | 432 |
| 4700 | | | | | | | 472 |
| 5100 | | | | | | | 512 |
| 5600 | | | | | | | 562 |

Notes

- Loose in box, all lengths have same SPQ
- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



U_{RDC} = 1000 V; U_{RAC} = 400 V; U_{pp} = 1100 V (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|----------------------|--|----------------------------|---|-----------------------------------|--|----------------|----------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH Ø 500 mm | PITCH = 7.5 mm (BENT BACK) Ø 500 mm Ø 356 mm | | |
| | | | XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 15.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 6200 6800 | 6.0 x 15.0 (16.5) x 18.5 | 1.2 | 24... (2000) | 22... (1000) | 26... (800) | 28... (450) | 622 682 |
| 7500 8200 9100 | 7.0 x 16.0 (17.5) x 18.5 | 1.4 | 24... (1500) | 22... (800) | 26... (700) | 28... (400) | 752 822 912 |
| 10 000 | 7.5 x 16.5 (18.0) x 18.5 | 1.6 | 24... (1250) | 22... (800) | 26... (650) | 28... (350) | 103 |
| 11 000 12 000 | 8.0 x 17.0 (18.5) x 18.5 | 1.8 | 24... (1250) | 22... (750) | 26... (600) | 28... (350) | 113 123 |
| 13 000 | 8.5 x 17.5 (19.0) x 18.5 | 1.9 | 24... (1000) | 22... (700) | 26... (550) | 28... (300) | 133 |
| 15 000 | 9.0 x 18.5 (19.5) x 18.5 | 2.1 | 24... (1000) | 22... (650) | 26... (550) | 28... (300) | 153 |
| C (µF) | PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 22.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.016 0.018 | 6.0 x 19.0 x 26.0 | 2.2 | 24... (800) | | | | 163 183 |
| 0.02 0.022 | 6.5 x 19.5 x 26.0 | 2.5 | 24... (750) | | | | 203 223 |
| 0.024 | 7.0 x 20.0 x 26.0 | 2.7 | 24... (650) | | | | 243 |
| 0.027 0.03 | 7.5 x 20.5 x 26.0 | 3.1 | 24... (600) | - | - | - | 273 303 |
| 0.033 | 8.0 x 21.0 x 26.0 | 3.4 | 24... (550) | | | | 333 |
| 0.036 0.039 | 8.5 x 21.5 x 26.0 | 3.7 | 24... (500) | | | | 363 393 |
| 0.043 | 9.0 x 22.0 x 26.0 | 4.1 | 24... (450) | | | | 433 |
| C (µF) | PITCH = 27.5 mm ± 0.5 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 27.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.047 | 7.0 x 20.0 x 30.0 | 3.1 | 24... (1000) | | | | 473 |
| 0.051 0.056 | 7.5 x 20.5 x 30.0 | 3.4 | 24... (750) | | | | 513 563 |
| 0.062 | 8.0 x 21.0 x 30.0 | 3.8 | 24... (650) | | | | 623 |
| 0.068 | 8.5 x 21.5 x 30.0 | 4.0 | 24... (550) | | | | 683 |
| 0.075 | 9.0 x 22.0 x 30.0 | 4.4 | 24... (550) | | | | 753 |
| 0.082 | 9.5 x 22.5 x 30.0 | 4.7 | 24... (500) | | | | 823 |
| 0.091 | 10.0 x 23.0 x 30.0 | 5.1 | 24... (500) | - | - | - | 913 |
| 0.10 | 10.5 x 23.5 x 30.0 | 5.5 | 24... (450) | | | | 104 |
| 0.11 | 11.0 x 24.0 x 30.0 | 5.9 | 24... (400) | | | | 114 |
| 0.12 | 11.5 x 24.5 x 30.0 | 6.3 | 24... (400) | | | | 124 |
| 0.13 | 12.0 x 25.0 x 30.0 | 6.8 | 24... (350) | | | | 134 |
| 0.15 | 12.5 x 25.5 x 30.0 | 7.6 | 24... (350) | | | | 154 |

Notes

- Loose in box, all lengths have same SPQ
- SPQ = Standard Packing Quantity
- (1) Net weight for short lead product only



U_{RDC} = 1000 V; U_{RAC} = 400 V; U_{PP} = 1100 V (LOCK LEAD); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|---------------|--|----------------------------|---|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | PITCH = 10.0 mm ± 1.0 mm; d_t = 0.60 mm ± 0.06 mm | | | |
| 100 | 5.0 x 16.0 x 14.5 | 0.5 | 90373 | (2000) |
| 110 | | | 90374 | |
| 120 | | | 90375 | |
| 130 | | | 90376 | |
| 150 | 5.5 x 16.5 x 14.5 | 0.55 | 90377 | (2000) |
| 160 | | 0.55 | 90378 | |
| 180 | | 0.55 | 90379 | |
| 200 | | 0.55 | 90281 | |
| 220 | | 0.60 | 90382 | |
| 240 | | 0.60 | 90383 | |
| 270 | | 0.60 | 90384 | |
| 300 | | 0.60 | 90385 | |
| 330 | | 0.60 | 90386 | |
| 360 | | 0.60 | 90387 | |
| 390 | | 0.65 | 90388 | |
| 430 | | 0.70 | 90389 | |
| 470 | | 0.75 | 90391 | |
| 510 | | 0.75 | 90392 | |
| 560 | | 0.80 | 90393 | |
| 620 | | 0.80 | 90394 | |
| 680 | 0.80 | 90395 | | |
| 750 | 0.70 | 90396 | | |
| 820 | 0.70 | 90397 | | |
| 910 | 0.70 | 90398 | | |
| 1000 | 6.0 x 17.0 x 14.5 | 0.75 | 90399 | (1750) |
| 1100 | | 0.85 | 90401 | |
| 1200 | | 0.90 | 90402 | |
| 1300 | | 0.85 | 90403 | |
| 1500 | | 0.90 | 90404 | |
| C (pF) | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 1600 | 5.5 x 17.5 x 18.5 | 1.1 | 90405 | (2000) |
| 1800 | | | 90406 | |
| 2000 | | | 90407 | |
| 2200 | | | 90408 | |
| 2400 | | | 90409 | |
| 2700 | 6.0 x 18.0 x 18.5 | 1.2 | 90411 | (2000) |
| 3000 | | | 90412 | |
| 3300 | | | 90413 | |
| 3600 | | | 90414 | |
| 3900 | | | 90415 | |
| 4300 | | | 90416 | |
| 4700 | | | 90417 | |
| 5100 | | | 90418 | |
| 5600 | | | 90419 | |
| 6200 | | | 90421 | |
| 6800 | 90422 | | | |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|---------------|--|----------------------------|---|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 7500 | 7.0 x 19.0 x 18.5 | 1.5 | 90232 | (1500) |
| 8200 | | | 90423 | |
| 9100 | | | 90424 | |
| 10 000 | 7.5 x 19.5 x 18.5 | 1.6 | 90425 | (1400) |
| 11 000 | 8.0 x 20.0 x 18.5 | 1.8 | 90426 | (1250) |
| 12 000 | | | 90427 | |
| 13 000 | 8.5 x 20.5 x 18.5 | 1.9 | 90428 | (1200) |
| 15 000 | 9.0 x 21.0 x 18.5 | 2.1 | 90429 | (1100) |
| C (μF) | PITCH = 22.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 0.016 | 6.0 x 22.0 x 26.0 | 2.2 | 90431 | (750) |
| 0.018 | | | 90432 | |
| 0.02 | 6.5 x 22.5 x 26.0 | 2.5 | 90433 | (700) |
| 0.022 | | | 90434 | |
| 0.024 | 7.0 x 23.0 x 26.0 | 2.7 | 90435 | (600) |
| 0.027 | 7.5 x 23.5 x 26.0 | 3.1 | 90436 | (550) |
| 0.03 | | | 90437 | |
| 0.033 | 8.0 x 24.0 x 26.0 | 3.4 | 90438 | (500) |
| 0.036 | 8.5 x 24.5 x 26.0 | 3.8 | 90439 | (450) |
| 0.039 | | | 90224 | |
| 0.043 | 9.0 x 25.0 x 26.0 | 4.1 | 90441 | (450) |
| C (μF) | PITCH = 27.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 0.047 | 7.0 x 23.0 x 30.0 | 3.1 | 90442 | (800) |
| 0.051 | 7.5 x 23.5 x 30.0 | 3.4 | 90443 | (600) |
| 0.056 | | | 90444 | |
| 0.062 | 8.0 x 24.0 x 30.0 | 3.8 | 90445 | (550) |
| 0.068 | 8.5 x 24.5 x 30.0 | 4.0 | 90446 | (550) |
| 0.075 | 9.0 x 25.0 x 30.0 | 4.4 | 90447 | (450) |
| 0.082 | 9.5 x 25.5 x 30.0 | 4.7 | 90448 | (450) |
| 0.091 | 10.0 x 26.0 x 30.0 | 5.1 | 90449 | (400) |
| 0.1 | 10.5 x 26.5 x 30.0 | 5.5 | 90451 | (350) |
| 0.11 | 11.0 x 27.0 x 30.0 | 5.9 | 90452 | (350) |
| 0.12 | 11.5 x 27.5 x 30.0 | 6.3 | 90453 | (350) |
| 0.13 | 12.0 x 28.0 x 30.0 | 6.8 | 90454 | (350) |
| 0.15 | 12.0 x 28.5 x 30.0 | 7.6 | 90455 | (300) |

Notes

- SPQ = Standard Packing Quantity
- (1) Net weight for short lead product only



SPECIFIC REFERENCE DATA (1600 V_{DC})

| DESCRIPTION | VALUE | |
|---|---------------------------------------|---------|
| | 10 kHz | 100 kHz |
| Tangent of loss angle at (x 10 ⁻⁴): Pitch = 10 mm, 15 mm and 7.5 mm (bent back) | ≤ 6 | ≤ 10 |
| Pitch = 22.5 mm | ≤ 6 | ≤ 15 |
| Pitch = 27.5 mm | ≤ 6 | ≤ 20 |
| Rated voltage pulse slope (dU/dt): Pitch = 10 mm Pitch = 15 mm and 7.5 mm (bent back) Pitch = 22.5 mm Pitch = 27.5 mm | 21 000 V/μs 7000 V/μs 4700 V/μs | |
| R between leads at 500 V, 1 min | > 100 000 MΩ | |
| R between interconnected leads and case, 500 V, 1 min | > 100 000 MΩ | |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge at 10 pC peak discharge | > 550 V | |
| Withstanding (DC) voltage (cut off current 10 mA), rise time 1000 V/s for C ≤ 47 nF for C > 47 nF | 2560 V, 1 min | |
| Withstanding (DC) voltage between leads and case | 2840 V, 1 min | |
| Maximum application temperature | 105 °C | |

U_{RDC} = 1600 V; U_{RAC} = 500 V; U_{PP} = 1400 V (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|---------------|--|----------------------------|---|-----------------------------------|----------------------------|-------------|-------------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 15.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 680 | 5.5 x 14.5 (15.0) x 18.5 | 0.75 | 34... (2000) | 32... (1100) | 36... (900) | 38... (500) | 681 |
| 750 | | | | | | | 751 |
| 820 | | | | | | | 821 |
| 910 | 6.0 x 15.0 (15.5) x 18.5 | 0.8 | 34... (2000) | 32... (1000) | 36... (800) | 38... (450) | 911 |
| 1000 | | | | | | | 102 |
| 1100 | | | | | | | 112 |
| 1200 | | | | | | | 122 |
| 1300 | | | | | | | 132 |
| 1500 | 5.5 x 14.5 (16.0) x 18.5 | 1.1 | 34... (2000) | 32... (1100) | 36... (900) | 38... (500) | 152 |
| 1600 | | | | | | | 162 |
| 1800 | 6.0 x 15.0 (16.5) x 18.5 | 1.2 | 34... (2000) | 32... (1000) | 36... (800) | 38... (450) | 182 |
| 2000 | 6.5 x 15.5 (17.0) x 18.5 | 1.3 | 34... (1500) | 32... (900) | 36... (750) | 38... (400) | 202 |
| 2200 | | | | | | | 222 |
| 2400 | 7.0 x 16.0 (17.5) x 18.5 | 1.4 | 34... (1500) | 32... (800) | 36... (700) | 38... (400) | 242 |
| 2700 | 7.5 x 16.5 (18.0) x 18.5 | 1.6 | 34... (1250) | 32... (800) | 36... (650) | 38... (350) | 272 |
| 3000 | | | | | | | 302 |
| 3300 | 8.0 x 17.0 (18.5) x 18.5 | 1.7 | 34... (1250) | 32... (750) | 36... (600) | 38... (350) | 332 |
| 3600 | 8.5 x 17.5 (19.0) x 18.5 | 1.8 | 34... (1000) | 32... (700) | 36... (550) | 38... (300) | 362 |
| 3900 | 9.0 x 18.5 (19.5) x 18.5 | 2.0 | 34... (1000) | 32... (650) | 36... (550) | 38... (300) | 392 |
| 4300 | | | | | | | 432 |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|----------------------------|--|----------------------------|---|-----------------------------------|----------------------------|-------------------|-------------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (µF) | PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 22.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.0047 0.0051 0.0056 | 6.0 x 19.0 x 26.0 | 2.0 | 34... (800) | | | 472 512 562 | |
| 0.0062 0.0068 | 6.5 x 19.5 x 26.0 | 2.1 | 34... (750) | | | 622 682 | |
| 0.0075 0.0082 | 7.0 x 20.0 x 26.0 | 2.3 | 34... (650) | | | 752 822 | |
| 0.0091 | 7.5 x 20.5 x 26.0 | 2.5 | 34... (600) | | | 912 | |
| 0.01 | 8.0 x 21.0 x 26.0 | 2.6 | 34... (550) | - | - | 103 | |
| 0.011 0.012 | 8.5 x 21.5 x 26.0 | 2.9 | 34... (500) | | | 113 123 | |
| 0.013 | 9.0 x 22.0 x 26.0 | 3.1 | 34... (450) | | | 133 | |
| 0.015 | 9.5 x 22.5 x 26.0 | 3.5 | 34... (400) | | | 153 | |
| 0.016 | 10.0 x 23.0 x 26.0 | 3.6 | 34... (400) | | | 163 | |
| 0.018 | 10.5 x 23.5 x 26.0 | 4.0 | 34... (350) | | | 183 | |
| C (µF) | PITCH = 27.5 mm ± 0.5 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 27.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.02 | 9.0 x 22.0 x 30.0 | 4.2 | 34... (550) | | | 203 | |
| 0.022 | 9.5 x 22.5 x 30.0 | 4.4 | 34... (500) | | | 223 | |
| 0.024 | 10.0 x 23.0 x 30.0 | 4.7 | 34... (500) | | | 243 | |
| 0.027 | 10.5 x 23.5 x 30.0 | 5.2 | 34... (450) | | | 273 | |
| 0.03 | 11.0 x 24.0 x 30.0 | 5.6 | 34... (400) | | | 303 | |
| 0.033 | 11.5 x 24.5 x 30.0 | 6.0 | 34... (400) | | | 333 | |
| 0.036 | 12.0 x 25.0 x 30.0 | 6.5 | 34... (350) | | | 363 | |
| 0.039 | 12.5 x 25.5 x 30.0 | 6.9 | 34... (350) | | | 393 | |

Notes

- Loose in box, all lengths have same SPQ
- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



U_{RDC} = 1600 V; U_{RAC} = 500 V; U_{PP} = 1400 V (LOCK LEAD); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|---------------|--------------------------------------|----------------------------|--|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | | | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | |
| 680 | 5.5 x 17.5 x 18.5 | 0.75 | 90456 | (2000) |
| 750 | | | 90457 | |
| 820 | | | 90458 | |
| 910 | 6.0 x 18.0 x 18.5 | 0.80 | 90459 | (2000) |
| 1000 | | 0.85 | 90461 | |
| 1100 | | 0.85 | 90462 | |
| 1200 | | 0.90 | 90463 | |
| 1300 | | 0.95 | 90464 | |
| 1500 | 5.5 x 17.5 x 18.5 | 1.1 | 90465 | (2000) |
| 1600 | | | 90466 | |
| 1800 | 6.0 x 18.0 x 18.5 | 1.2 | 90467 | (2000) |
| 2000 | 6.5 x 18.5 x 18.5 | 1.3 | 90468 | (1750) |
| 2200 | | | 90469 | |
| 2400 | 7.0 x 19.0 x 18.5 | 1.4 | 90471 | (1500) |
| 2700 | 7.5 x 19.5 x 18.5 | 1.6 | 90472 | (1400) |
| 3000 | | | 90473 | |
| 3300 | 8.0 x 20.0 x 18.5 | 1.9 | 90141 | (1250) |
| 3600 | 8.5 x 20.5 x 18.5 | 2.3 | 90142 | (1200) |
| 3900 | 9.0 x 21.5 x 18.5 | 2.5 | 90143 | (1100) |
| 4300 | | | 90144 | |
| C (µF) | | | PITCH = 22.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | |
| 0.0047 | 6.0 x 22.0 x 26.0 | 2.4 | 90145 | (750) |
| 0.0051 | | | 90146 | |
| 0.0056 | | | 90147 | |
| 0.0062 | 6.5 x 22.5 x 26.0 | 2.6 | 90148 | (700) |
| 0.0068 | | | 90149 | |
| 0.0075 | 7.0 x 23.0 x 26.0 | 2.8 | 90151 | (600) |
| 0.0082 | | | 90152 | |
| 0.0083 | | | 90202 | |
| 0.0091 | 7.5 x 23.5 x 26.0 | 2.9 | 90153 | (550) |
| 0.01 | 8.0 x 24.0 x 26.0 | 3.2 | 90154 | (500) |
| 0.011 | 8.5 x 24.5 x 26.0 | 3.4 | 90155 | (450) |
| 0.012 | | | 90156 | |
| 0.013 | 9.0 x 25.0 x 26.0 | 3.6 | 90157 | (450) |
| 0.015 | 9.5 x 25.5 x 26.0 | 4.0 | 90158 | (400) |
| 0.016 | 10.0 x 26.0 x 26.0 | 4.3 | 90159 | (350) |
| 0.018 | 10.5 x 26.5 x 26.0 | 4.7 | 90161 | (350) |
| C (µF) | | | PITCH = 27.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | |
| 0.02 | 9.0 x 25.0 x 30.0 | 4.2 | 90474 | (450) |
| 0.022 | 9.5 x 25.5 x 30.0 | 4.4 | 90475 | (450) |
| 0.024 | 10.0 x 26.0 x 30.0 | 4.7 | 90476 | (400) |
| 0.027 | 10.5 x 26.5 x 30.0 | 5.2 | 90477 | (350) |
| 0.03 | 11.0 x 27.0 x 30.0 | 5.6 | 90478 | (350) |
| 0.033 | 11.5 x 27.5 x 30.0 | 6.0 | 90479 | (350) |
| 0.036 | 12.0 x 28.0 x 30.0 | 6.5 | 90481 | (300) |
| 0.039 | 12.5 x 28.5 x 30.0 | 6.9 | 90482 | (300) |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



SPECIFIC REFERENCE DATA (2000 V_{DC})

| DESCRIPTION | VALUE | |
|---|---------------|---------|
| | 10 kHz | 100 kHz |
| Tangent of loss angle at (x 10 ⁻⁴): Pitch = 10 mm, 15 mm, and 7.5 mm (bent back) | ≤ 6 | ≤ 10 |
| Pitch = 22.5 mm | ≤ 6 | ≤ 10 |
| Pitch = 27.5 mm | ≤ 6 | ≤ 15 |
| Rated voltage pulse slope (dU/dt): Pitch = 10 mm | 30 000 V/μs | |
| Pitch = 15 mm and 7.5 mm (bent back) | 10 000 V/μs | |
| Pitch = 22.5 mm | 6700 V/μs | |
| Pitch = 27.5 mm | | |
| R between leads at 500 V, 1 min | > 100 000 MΩ | |
| R between interconnected leads and case, 500 V, 1 min | > 100 000 MΩ | |
| Ionization (AC) voltage (typical value) at 50 pC peak discharge at 20 pC peak discharge | > 600 V | |
| Withstanding (DC) voltage (cut off current 10 mA), rise time 1000 V/s for C ≤ 47 nF for C > 47 nF | 3200 V, 1 min | |
| Withstanding (DC) voltage between leads and case | 2840 V, 1 min | |
| Maximum application temperature | 105 °C | |

U_{RDC} = 2000 V; U_{RAC} = 600 V; U_{PP} = 1700 (KINKED); C-TOL. = ± 5 %

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|---------------|--|----------------------------|---|-----------------------------------|----------------------------|----------------|----------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 15.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 100 | | 0.75 | | | | 101 | |
| 110 | | 0.75 | | | | 111 | |
| 120 | | 0.75 | | | | 121 | |
| 130 | | 0.75 | | | | 131 | |
| 150 | | 0.75 | | | | 151 | |
| 160 | | 0.75 | | | | 161 | |
| 180 | | 0.75 | | | | 181 | |
| 200 | | 0.75 | | | | 201 | |
| 220 | | 0.75 | | | | 221 | |
| 240 | 5.5 x 14.5 (15.0) x 18.5 | 0.75 | 44... (2000) | 42... (1100) | 46... (900) | 48... (500) | 241 |
| 270 | | 0.75 | | | | | 271 |
| 300 | | 0.75 | | | | | 301 |
| 330 | | 0.75 | | | | | 331 |
| 360 | | 0.75 | | | | | 361 |
| 390 | | 0.75 | | | | | 391 |
| 430 | | 0.75 | | | | | 431 |
| 470 | | 0.80 | | | | | 471 |
| 510 | | 0.80 | | | | | 511 |
| 560 | | 0.80 | | | | | 561 |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | C VALUE ..YYY |
|---------------|--|----------------------------|---|-----------------------------------|----------------------------|----------------|------------------|
| | | | LOOSE IN BOX | REEL | | | |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (pF) | PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 15.0 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 620 | 6.0 x 15.0 (15.5) x 18.5 | 0.85 | 44... (2000) | 42... (1000) | 46... (800) | 48... (450) | 621 |
| 680 | | 0.85 | | | | | 681 |
| 750 | | 0.90 | | | | | 751 |
| 820 | 6.5 x 15.5 (16.0) x 18.5 | 0.95 | 44... (1500) | 42... (900) | 46... (750) | 48... (400) | 821 |
| 910 | 5.5 x 14.5 (16.0) x 18.5 | 1.1 | 44... (2000) | 42... (420) | 46... (900) | 48... (500) | 911 |
| 1000 | 6.0 x 15.0 (16.5) x 18.5 | 1.2 | 44... (2000) | 42... (1000) | 46... (800) | 48... (450) | 102 |
| 1100 | | | | | | | 112 |
| 1200 | | | | | | | 122 |
| 1300 | 6.5 x 15.5 (17.0) x 18.5 | 1.3 | 44... (1500) | 42... (900) | 46... (750) | 48... (400) | 132 |
| 1500 | 7.0 x 16.0 (17.5) x 18.5 | 1.4 | 44... (1500) | 42... (800) | 46... (700) | 48... (400) | 152 |
| 1600 | 7.5 x 16.5 (18.0) x 18.5 | 1.5 | 44... (1250) | 42... (800) | 46... (650) | 48... (350) | 162 |
| 1800 | | | | | | | 182 |
| 2000 | 8.0 x 17.0 (18.5) x 18.5 | 1.6 | 44... (1250) | 42... (750) | 46... (600) | 48... (350) | 202 |
| 2200 | 8.5 x 17.5 (19.0) x 18.5 | 1.7 | 44... (1000) | 42... (700) | 46... (550) | 48... (300) | 222 |
| 2400 | 9.0 x 18.0 (19.5) x 18.5 | 1.8 | 44... (1000) | 42... (650) | 46... (550) | 48... (300) | 242 |
| 2700 | 9.5 x 18.5 (20.0) x 18.5 | 2.0 | 44... (900) | 42... (600) | 46... (500) | 48... (300) | 272 |
| C (µF) | PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 22.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.003 | 6.0 x 19.0 x 26.0 | 2.1 | 44... (800) | | | | 302 |
| 0.0033 | | | | | | | 332 |
| 0.0036 | | | | | | | 362 |
| 0.0039 | 6.5 x 19.5 x 26.0 | 2.3 | 44... (750) | | | | 392 |
| 0.0043 | | | | | | | 432 |
| 0.0047 | 7.0 x 20.0 x 26.0 | 2.6 | 44... (650) | | | | 472 |
| 0.0051 | | | | | | | 512 |
| 0.0056 | 7.5 x 20.5 x 26.0 | 2.8 | 44... (600) | | | | 562 |
| 0.0062 | | | | | | | 622 |
| 0.0068 | 8.0 x 21.0 x 26.0 | 3.0 | 44... (550) | | | | 682 |
| 0.0075 | | | | | | | 752 |
| 0.0082 | 8.5 x 21.5 x 26.0 | 3.3 | 44... (500) | | | | 822 |
| 0.0091 | 9.0 x 22.0 x 26.0 | 3.6 | 44... (450) | | | | 912 |
| 0.01 | 9.5 x 22.5 x 26.0 | 3.8 | 44... (400) | | | | 103 |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | | | | |
|---------------|--|----------------------------|---|-----------------------------------|----------------------------|----------|---------|
| | | | LOOSE IN BOX | REEL | | | C VALUE |
| | | | LEADS 5 mm ± 1.0 mm | ORIGINAL PITCH | PITCH = 7.5 mm (BENT BACK) | | ..YYY |
| | | | | Ø 500 mm | Ø 500 mm | Ø 356 mm | |
| XX (SPQ) | XX (SPQ) | XX (SPQ) | XX (SPQ) | | | | |
| C (µF) | PITCH = 27.5 mm ± 0.5 mm; d_t = 0.80 mm ± 0.08 mm | | PITCH = 27.5 mm | PITCH = 7.5 mm (BENT BACK) | | | |
| 0.011 | 9.0 x 22.0 x 30.0 | 3.8 | 44... (550) | | | 113 | |
| 0.012 | 9.5 x 22.5 x 30.0 | 4.1 | 44... (500) | | | 123 | |
| 0.013 | 10.0 x 23.0 x 30.0 | 4.4 | 44... (500) | | | 133 | |
| 0.015 | 10.5 x 23.5 x 30.0 | 4.9 | 44... (450) | | | 153 | |
| 0.016 | 11.0 x 24.0 x 30.0 | 5.1 | 44... (400) | | | 163 | |
| 0.018 | 11.5 x 24.5 x 30.0 | 5.6 | 44... (400) | | | 183 | |
| 0.02 | 12.5 x 25.5 x 30.0 | 6.1 | 44... (350) | | | 203 | |
| 0.022 | 13.0 x 26.0 x 30.0 | 6.5 | 44... (300) | | | 223 | |

Notes

- Loose in box, all lengths have same SPQ
- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only

U_{RDC} = 2000 V; U_{RAC} = 600 V; U_{PP} = 1700 V (LOCK LEAD)

| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XXYYY AND PACKAGING | |
|---------------|--------------------------------------|----------------------------|--|--|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | | | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | |
| 100 | 5.5 x 17.5 x 18.5 | 0.75 | 90483 | |
| 110 | | 0.75 | 90484 | |
| 120 | | 0.75 | 90485 | |
| 130 | | 0.75 | 90486 | |
| 150 | | 0.75 | 90487 | |
| 160 | | 0.75 | 90488 | |
| 180 | | 0.75 | 90489 | |
| 200 | | 0.75 | 90491 | |
| 220 | | 0.75 | 90276 | |
| 240 | | 0.75 | 90492 | |
| 270 | | 0.75 | 90493 | |
| 300 | | 0.75 | 90494 | |
| 330 | | 0.75 | 90495 | |
| 360 | | 0.75 | 90496 | |
| 390 | | 0.75 | 90188 | |
| 430 | | 0.75 | 90497 | |
| 470 | | 0.80 | 90498 | |
| 510 | 0.80 | 90499 | | |
| 560 | 0.80 | 90501 | | |



| C | DIMENSIONS w x h (h') x l (mm) | MASS (g) ⁽¹⁾ | CATALOG NUMBER BFC2 375 XYYYY AND PACKAGING | |
|---------------|--|----------------------------|---|--------|
| | | | LOOSE IN BOX | |
| | | | l _t = 4.0 mm + 1.0 mm/- 0.5 mm | |
| | | | (SPQ) | |
| C (pF) | PITCH = 15.0 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 620 | 6.0 x 18.0 x 18.5 | 0.85 | 90502 | (2000) |
| 680 | | 0.85 | 90229 | |
| 750 | | 0.90 | 90503 | |
| 820 | 6.5 x 18.5 x 18.5 | 0.95 | 90504 | (1750) |
| 910 | 5.5 x 17.5 x 18.5 | 1.1 | 90505 | (2000) |
| 1000 | 6.0 x 18.0 x 18.5 | 1.3 | 90225 | (2000) |
| 1100 | | | 90506 | |
| 1200 | | | 90226 | |
| 1300 | 6.5 x 18.5 x 18.5 | 1.3 | 90507 | (1750) |
| 1500 | 7.0 x 19.0 x 18.5 | 1.5 | 90266 | (1500) |
| 1600 | 7.5 x 19.5 x 18.5 | 1.7 | 90508 | (1400) |
| 1800 | | | 90237 | |
| 2000 | 8.0 x 20.0 x 18.5 | 1.7 | 90509 | (1250) |
| 2200 | 8.5 x 20.5 x 18.5 | 2.3 | 90227 | (1200) |
| 2400 | 9.0 x 21.0 x 18.5 | 1.8 | 90511 | (1100) |
| 2700 | 9.5 x 21.5 x 18.5 | 2.7 | 90228 | (1000) |
| C (µF) | PITCH = 22.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 0.003 | 6.0 x 22.0 x 26.0 | 2.2 | 90512 | (750) |
| 0.0033 | | | 90162 | |
| 0.0036 | | | 90163 | |
| 0.0039 | | | 90164 | |
| 0.0043 | 6.5 x 22.5 x 26.0 | 2.4 | 90165 | (700) |
| 0.0047 | | | 90166 | |
| 0.0051 | 7.0 x 23.0 x 26.0 | 2.6 | 90167 | (600) |
| 0.0056 | | | 90168 | |
| 0.0062 | 7.5 x 23.5 x 26.0 | 2.8 | 90169 | (550) |
| 0.0068 | 8.0 x 24.0 x 26.0 | 3.0 | 90171 | (500) |
| 0.0075 | | | 90172 | |
| 0.0082 | 8.5 x 24.5 x 26.0 | 3.2 | 90173 | (450) |
| 0.0091 | 9.0 x 25.0 x 26.0 | 3.5 | 90174 | (450) |
| 0.01 | 9.5 x 25.5 x 26.0 | 3.8 | 90175 | (400) |
| C (µF) | PITCH = 27.5 mm ± 1.0 mm; d_t = 0.80 mm ± 0.08 mm | | | |
| 0.011 | 9.0 x 25.0 x 30.0 | 4.4 | 90176 | (450) |
| 0.012 | 9.5 x 25.5 x 30.0 | 4.6 | 90177 | (450) |
| 0.013 | 10.0 x 26.0 x 30.0 | 5.0 | 90178 | (400) |
| 0.015 | 10.5 x 26.5 x 30.0 | 5.4 | 90179 | (350) |
| 0.016 | 11.0 x 27.0 x 30.0 | 5.8 | 90181 | (350) |
| 0.018 | 11.5 x 27.5 x 30.0 | 6.2 | 90182 | (350) |
| 0.02 | 12.5 x 28.5 x 30.0 | 6.1 | 90513 | (300) |
| 0.022 | 13.0 x 29.0 x 30.0 | 6.5 | 90514 | (250) |

Notes

- SPQ = Standard Packing Quantity
- ⁽¹⁾ Net weight for short lead product only



MOUNTING

Normal Use

The capacitors are designed for mounting on printed-circuit boards. The capacitors packed in bandoliers are designed for mounting in printed-circuit boards by means of automatic insertion machines.

For detailed tape specifications refer to “Packaging information” www.vishay.com/doc?28139 or end of catalog.

Specific Method of Mounting to Withstand Vibration and Shock

- For pitches ≤ 15 mm capacitors shall be mechanically fixed by the leads
- For larger pitches the capacitors shall be mounted in the same way and the body clamped

Storage Temperature

$T_{stg} = -25$ °C to $+35$ °C with RH maximum 75 % without condensation

Ratings and Characteristics Reference Conditions

Unless otherwise specified, all electrical values apply to an ambient temperature of 23 °C ± 1 °C, an atmospheric pressure of 86 kPa to 106 kPa and a relative humidity of 50 % ± 2 %.

For reference testing, a conditioning period shall be applied over 96 h ± 4 h by heating the products in a circulating air oven at the rated temperature and a relative humidity not exceeding 20 %.



CHARACTERISTICS



Capacitance as a function of ambient temperature (typical curve)



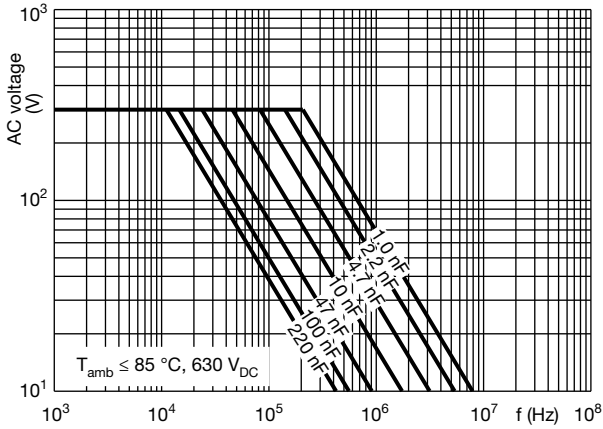
Impedance as a function of frequency (typical curve)



Maximum DC voltage as a function of temperature



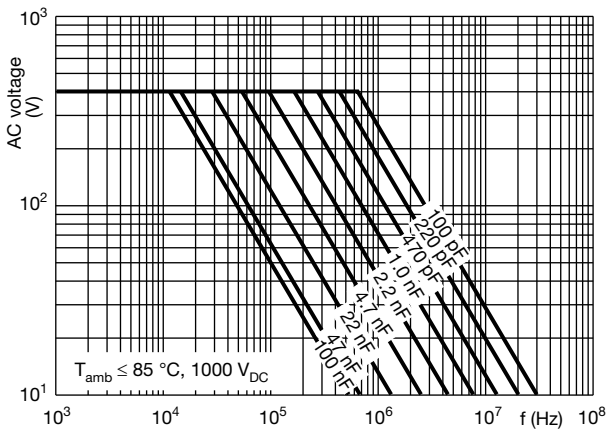
Maximum allowed component temperature rise as a function of ambient temperature



Max. RMS voltage (sinewave) as a function of frequency



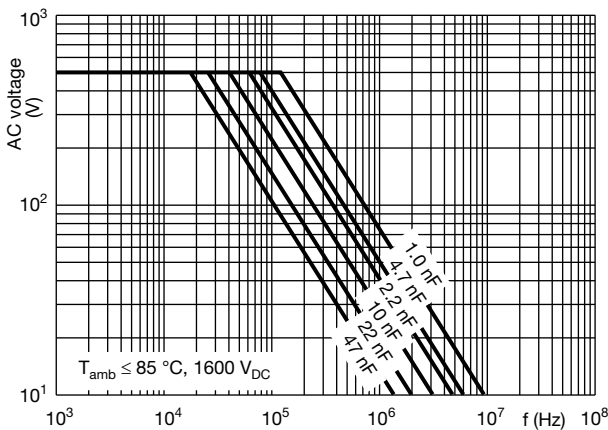
Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



Max. RMS voltage (sinewave) as a function of frequency



1. KP/MPK 10.0 mm and 15 mm pitch all versions
22.5 mm pitch, 1000 V, 1600 V, 2000 V and 2500 V versions
2. KP/MPK 22.5 mm pitch, 630 V versions
27.5 mm pitch, 1000 V, 1600 V and 2000 V versions
3. KP/MPK 27.5 mm pitch, 630 V versions

Tangent of loss angle
(typical curve)



1. KP/MPK 10.0 mm and 15 mm pitch all versions
22.5 mm pitch, 1000 V, 1600 V, 2000 V and 2500 V versions
2. KP/MPK 22.5 mm pitch, 630 V versions
27.5 mm pitch, 1000 V, 1600 V and 2000 V versions
3. KP/MPK 27.5 mm pitch, 630 V versions

Maximum curves



Insulation resistance as a function of ambient temperature



HEAT CONDUCTIVITY (G) AS A FUNCTION OF (ORIGINAL) PITCH AND CAPACITOR BODY THICKNESS IN mW/°C

| W _{max.} (mm) | HEAT CONDUCTIVITY (mW/°C) | | | |
|---------------------------|---------------------------|-------------|---------------|---------------|
| | PITCH 10 mm | PITCH 15 mm | PITCH 22.5 mm | PITCH 27.5 mm |
| 4.0 | 4.0 | 5.0 | - | - |
| 4.5 | 4.5 | 6.0 | - | - |
| 5.0 | 5.0 | 6.0 | 12.0 | 13.0 |
| 5.5 | 6.0 | 6.5 | 13.0 | 15.0 |
| 6.0 | 6.0 | 6.5 | 13.0 | 15.0 |
| 6.5 | 6.5 | 8.0 | 15.0 | 17.0 |
| 7.0 | - | 8.0 | 15.0 | 17.0 |
| 7.5 | - | 9.0 | 17.0 | 18.0 |
| 8.0 | - | 9.0 | 17.0 | 20.0 |
| 8.5 | - | 11.0 | 18.0 | 20.0 |
| 9.0 | - | 11.0 | 18.0 | 22.0 |
| 9.5 | - | 12.0 | 20.0 | 22.0 |
| 10.0 | - | 12.0 | 20.0 | 23.0 |
| 10.5 | - | - | 22.0 | 25.0 |
| 11.0 | - | - | 22.0 | 25.0 |
| 11.5 | - | - | 23.0 | 27.0 |
| 12.0 | - | - | - | 27.0 |
| 12.5 | - | - | - | 30.0 |
| 13.0 | - | - | - | 30.0 |
| 13.5 | - | - | - | 30.0 |
| 14.0 | - | - | - | 30.0 |
| 14.5 | - | - | - | 33.0 |
| 15.0 | - | - | - | 33.0 |
| 15.5 | - | - | - | 37.0 |
| 16.0 | - | - | - | 37.0 |

POWER DISSIPATION AND MAXIMUM COMPONENT TEMPERATURE RISE

The power dissipation must be limited in order not to exceed the maximum allowed component temperature rise as a function of the free ambient temperature.

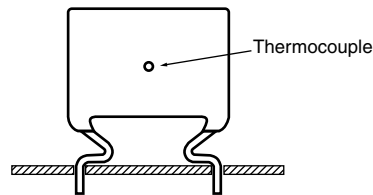
The power dissipation can be calculated according type detail specification "HQN-384-01/101: Technical Information Film Capacitors"

The component temperature rise (ΔT) can be measured (see section "Measuring the component temperature" for more details) or calculated by ΔT = P/G:

- ΔT = component temperature rise (°C)
- P = power dissipation of the component (mW)
- G = heat conductivity of the component (mW/°C)

MEASURING THE COMPONENT TEMPERATURE

A thermocouple must be attached to the capacitor body as in:



The temperature is measured in unloaded (T_{amb}) and maximum loaded condition (T_C).

The temperature rise is given by $\Delta T = T_C - T_{amb}$.

To avoid radiation or convection, the capacitor should be tested in a wind-free box.

APPLICATION NOTE AND LIMITING CONDITIONS

To select the capacitor for a certain application, the following conditions must be checked:

1. The peak voltage (U_P) shall not be greater than the rated DC voltage (U_{RDC}).
2. The peak-to-peak voltage (U_{PP}) shall not be greater than the maximum (U_{p-p}) to avoid the ionization inception level.
3. The voltage pulse slope (dU/dt) shall not exceed the rated voltage pulse slope in an RC-circuit at rated voltage and without ringing. If the pulse voltage is lower than the rated DC voltage, the rated voltage pulse slope may be multiplied by U_{RDC} and divided by the applied voltage.

For all other pulses following equation must be fulfilled:

$$2 \times \int_0^T \left(\frac{dU}{dt} \right)^2 \times dt < U_{RDC} \times \left(\frac{dU}{dt} \right)_{rated}$$

T is the pulse duration.

4. The maximum component surface temperature rise must be lower than the limits.

Example

$C = 10 \text{ nF}$ 1600 V, KP/MPK

This is a signal as in the drawing below

$U_{p-p} = 1200 \text{ V}$; $U_P = 1100 \text{ V}$; $T_1 = 12 \text{ } \mu\text{s}$; $T_2 = 64 \text{ } \mu\text{s}$

The ambient temperature is $50 \text{ }^\circ\text{C}$

Checking conditions:

1. The peak voltage $U_P = 1100 \text{ V}$ is lower than 1600 V_{DC}
2. The peak-to-peak voltage 1200 V is lower than $2\sqrt{02} \times 550 \text{ V}_{AC} = 1414 \text{ } U_{p-p}$
3. The voltage pulse slope (dU/dt) = 320 V is much lower than $7000 \text{ V}/\mu\text{s}$
4. The dissipated power is 170 mW as calculated with fourier terms

This gives a temperature rise of $170 \text{ mW}/(17 \text{ mW}/^\circ\text{C}) = 10 \text{ }^\circ\text{C}$ which is allowed according Fig. "Max. allowed temperature rise as a function of ambient temperature" for an ambient temperature of $50 \text{ }^\circ\text{C}$





INSPECTION REQUIREMENTS

General Notes

Sub-clause numbers of tests and performance requirements refer to the "Sectional Specification, Publication IEC 60384-17 and Specific Reference Data".

Group C Inspection Requirements

| SUB-CLAUSE NUMBER AND TEST | CONDITIONS | PERFORMANCE REQUIREMENTS |
|---|---|--|
| SUB-GROUP C1A PART OF SAMPLE OF SUB-GROUP C1 | | |
| 4.1 Dimensions (detail) | | As specified in chapters "General Data" of this specification |
| 4.3.1 Initial measurements | Capacitance Tangent of loss angle at 100 kHz | |
| 4.3 Robustness of terminations | Tensile: load 10 N; 10 s Bending: load 5 N; 4 x 90° | No visible damage |
| 4.4 Resistance to soldering heat | Method: 1A Solder bath: 280 °C ± 5 °C Duration: 10 s | |
| 4.14 Component solvent resistance | Isopropylalcohol at room temperature Method: 2 Immersion time: 5 min ± 0.5 min Recovery time: min. 1 h, max. 2 h | |
| 4.4.2 Final measurements | Visual examination | No visible damage Legible marking |
| | Capacitance | $ \Delta C/C \leq 1\% + 5 \text{ pF}$ of the value measured initially |
| | Tangent of loss angle | Increase of $\tan \delta: \leq 0.0005$ Compared to values measured in 4.3.1 |
| SUB-GROUP C1B PART OF SAMPLE OF SUB-GROUP C1 | | |
| 4.6.1 Initial measurements | Capacitance Tangent of loss angle at 100 kHz | |
| 4.15 Solvent resistance of the marking | Isopropylalcohol at room temperature Method: 1 Rubbing material: cotton wool Immersion time: 5 min ± 0.5 min | No visible damage Legible marking |
| 4.6 Rapid change of temperature | $\theta A = -55 \text{ °C}$ $\theta B = +105 \text{ °C}$ 5 cycles Duration t = 30 min | |
| 4.7 Vibration | Visual examination Mounting: See section "Mounting" of this specification Procedure B4 Frequency range: 10 Hz to 55 Hz Amplitude: 0.75 mm or Acceleration 98 m/s ² (whichever is less severe) Total duration 6 h | No visible damage |



| SUB-CLAUSE NUMBER AND TEST | CONDITIONS | PERFORMANCE REQUIREMENTS |
|--|---|--|
| 4.7.2 Final inspection | Visual examination | No visible damage |
| 4.9 Shock | Mounting: see section "Mounting" of this specification Pulse shape: half sine Acceleration: 490 m/s ² Duration of pulse: 11 ms | |
| 4.9.3 Final measurements | Visual examination Capacitance Tangent of loss angle Insulation resistance | No visible damage For C > 0.027µF: $ \Delta C/C \leq 2\%$ or for C ≤ 0.027µF: $ \Delta C/C \leq 3\% + 5\text{ pF}$ of the value measured in 4.6.1. Increase of tan δ: ≤ 0.0005 Compared to values measured in 4.6.1 As specified in chapter "General data" of this specification |
| SUB-GROUP C1 COMBINED SAMPLE OF SPECIMENS OF SUB-GROUPS C1A AND C1B | | |
| 4.10 Climatic sequence | | |
| 4.10.2 Dry heat | Temperature: +105 °C Duration: 16 h | |
| 4.10.3 Damp heat cyclic Test Db, first cycle | | |
| 4.10.4 Cold | Temperature: -55 °C Duration: 2 h | |
| 4.10.6 Damp heat cyclic Test Db, remaining cycles | | |
| 4.10.6.2 Final measurements | Voltage proof = U _{RDC} for 1 min within 15 min after removal from testchamber Visual examination Capacitance Tangent of loss angle Insulation resistance | No breakdown of flash-over No visible damage Legible marking $ \Delta C/C \leq 3\%$ of the value measured in 4.4.2 or 4.9.3 Increase of tan δ: ≤ 0.001 Compared to values measured in 4.3.1 or 4.6.1 ≥ 50 % of values specified in chapters "General data" of this specification |



| SUB-CLAUSe NUMBER AND TEST | CONDITIONS | PERFORMANCE REQUIREMENTS |
|-----------------------------------|---|--|
| SUB-GROUP C2 | | |
| 4.11 Damp heat steady state | 56 days, 40 °C, 90 % to 95 % RH | |
| 4.11.1 Initial measurements | Capacitance Tangent of loss angle at 1 kHz | |
| 4.11.3 Final measurements | Voltage proof = U_{RDC} for 1 min within 15 min after removal from testchamber Visual examination Capacitance Tangent of loss angle Insulation resistance | No breakdown of flash-over No visible damage Legible marking $ \Delta C/C \leq 1\% + 5\text{ pF}$ of the value measured in 4.11.1. Increase of $\tan \delta \leq 0.0005$ Compared to values measured in 4.11.1 $\geq 50\%$ of values specified in section "Insulation Resistance" of this specification |
| SUB GROUP C3 | | |
| 4.12.1 Endurance | Duration: 2000 h Temperature: 85 °C Voltage: 1.25 x max. $U_{RDC} V_{RMS}$, 50 Hz Duration: 2000 h Temperature: 105 °C | |
| 4.12.1.1 Initial measurements | Voltage: 0.875 x max. $U_{RDC} V_{RMS}$, 50 Hz Capacitance Tangent of loss angle at 100 kHz | |
| 4.12.1.3 Final measurements | Visual examination Capacitance Tangent of loss angle Insulation resistance | No visible damage Legible marking Temperature: 85 °C For $C > 0.056\ \mu\text{F}$: $ \Delta C/C \leq 2\% + 5\text{ pF}$ or for $C > 0.056\ \mu\text{F}$: $ \Delta C/C \leq 3\% + 5\text{ pF}$ of the value measured in 4.12.1.1 Temperature: 105 °C $ \Delta C/C \leq 5\% + 5\text{ pF}$ Increase of $\tan \delta: \leq 0.001$ Compared to values measured in 4.12.1 $\geq 50\%$ of values specified in chapters "General data" of this specification |
| SUB-GROUP C4 | | |
| 4.2.6 Temperature characteristics | Capacitance Insulation resistance | As specified in section "Capacitance" of this specification As specified in chapters "General data" of this specification |



Disclaimer

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

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

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

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

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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

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