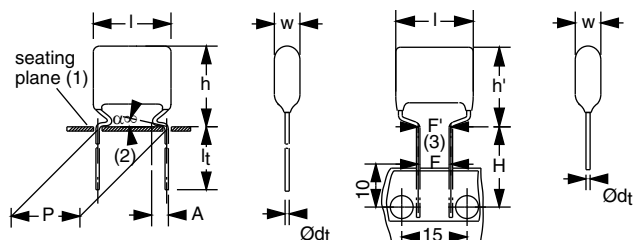


AC and Pulse Polypropylene Film Capacitors MKP Radial Epoxy Lacquered Type



Dimensions in mm

Hole Ø 1.0 for $d_t = 0.6$ mm

Hole Ø 1.3 for $d_t = 0.8$ mm

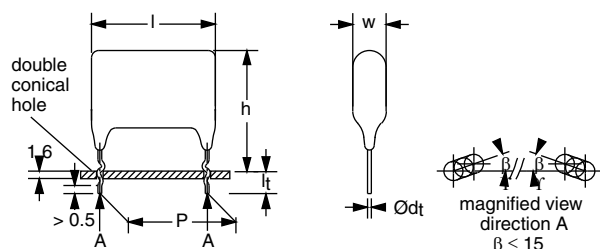
$0 \leq \alpha < 50^\circ$

$|F - F'| < 0.3$ 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



RoHS
COMPLIANT

CONSTRUCTION

Wound mono construction

CAPACITANCE RANGE (E24 SERIES)

0.01 μ F to 3.9 μ F

CAPACITANCE TOLERANCE

$\pm 5 \%$

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 $^\circ$ C

MAXIMUM APPLICATION TEMPERATURE

105 $^\circ$ C

REFERENCE SPECIFICATIONS

IEC 60384-17

PERFORMANCE GRADE

Grade 1 (long life)

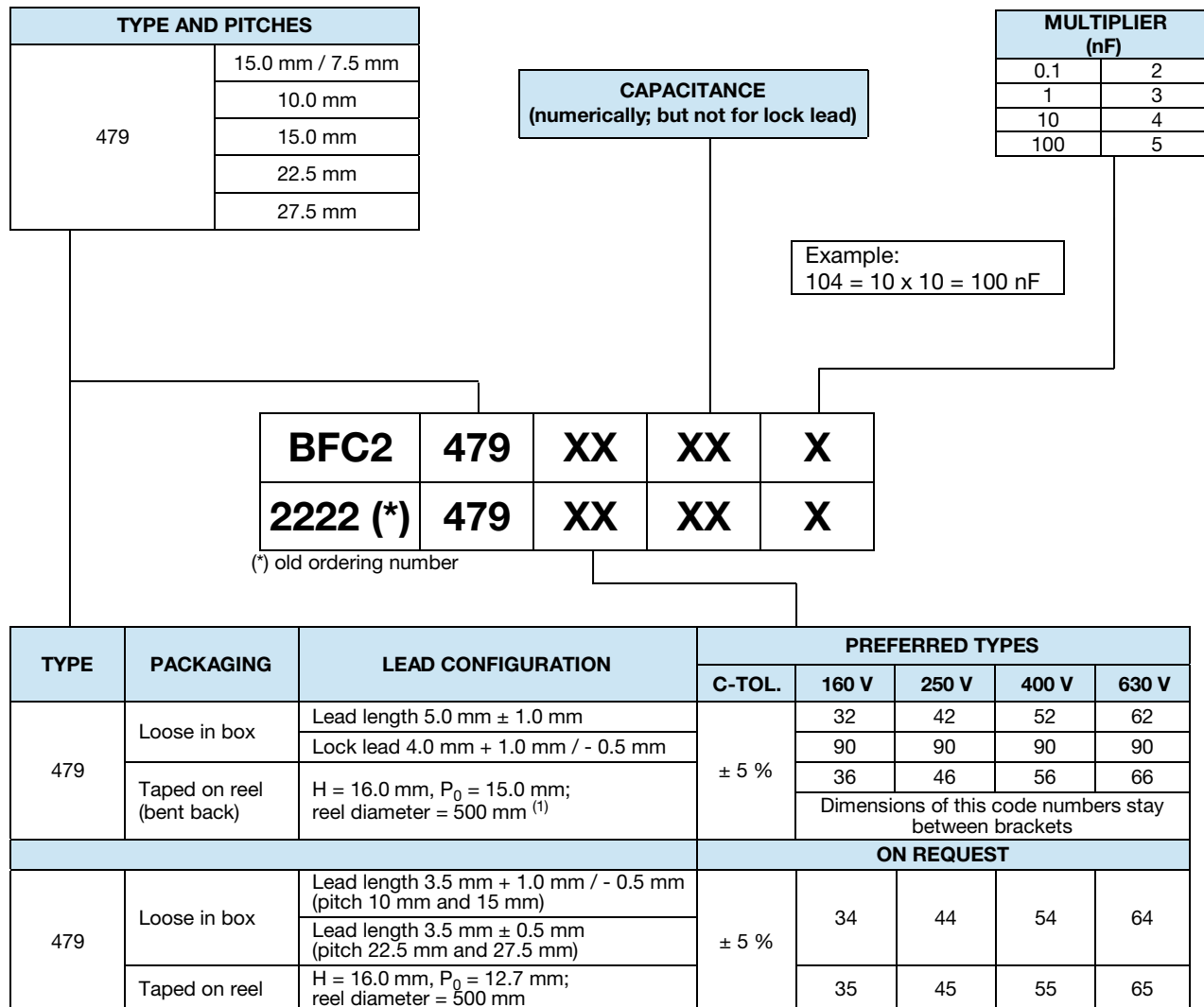
STABILITY GRADE

Grade 2

DETAIL SPECIFICATION

For more detailed data and test requirements contact:

dc-film@vishay.com

COMPOSITION OF CATALOG NUMBER

Notes

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

SPECIFIC REFERENCE DATA (160 V_{DC})

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
C = 0.075 µF	≤ 10 x 10 ⁻⁴	≤ 25 x 10 ⁻⁴
0.075 µF < C ≤ 0.11 µF	≤ 10 x 10 ⁻⁴	≤ 30 x 10 ⁻⁴
0.11 µF < C ≤ 0.18 µF	≤ 10 x 10 ⁻⁴	≤ 35 x 10 ⁻⁴
0.18 µF < C ≤ 0.3 µF	≤ 10 x 10 ⁻⁴	≤ 40 x 10 ⁻⁴
0.3 µF < C ≤ 0.47 µF	≤ 10 x 10 ⁻⁴	≤ 60 x 10 ⁻⁴
0.47 µF < C ≤ 0.82 µF	≤ 15 x 10 ⁻⁴	≤ 90 x 10 ⁻⁴
0.82 µF < C ≤ 1.1 µF	≤ 15 x 10 ⁻⁴	≤ 100 x 10 ⁻⁴
1.1 µF < C ≤ 1.2 µF	≤ 15 x 10 ⁻⁴	≤ 120 x 10 ⁻⁴
1.2 µF < C ≤ 1.3 µF	≤ 15 x 10 ⁻⁴	≤ 125 x 10 ⁻⁴
1.3 µF < C ≤ 1.8 µF	≤ 15 x 10 ⁻⁴	≤ 135 x 10 ⁻⁴
1.8 µF < C ≤ 2.4 µF	≤ 15 x 10 ⁻⁴	≤ 145 x 10 ⁻⁴
2.4 µF < C ≤ 3.0 µF	≤ 15 x 10 ⁻⁴	≤ 155 x 10 ⁻⁴
3.0 µF < C ≤ 3.3 µF	≤ 15 x 10 ⁻⁴	≤ 165 x 10 ⁻⁴
3.3 µF < C ≤ 3.6 µF	≤ 15 x 10 ⁻⁴	≤ 175 x 10 ⁻⁴
3.6 µF < C ≤ 3.9 µF	≤ 15 x 10 ⁻⁴	≤ 185 x 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R at 160 V _{DC} :		
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 ⁽¹⁾	256 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

⁽¹⁾ See "Voltage Proof Test for Metalized Film Capacitors": www.vishay.com/doc?28169

U_{RDC} = 160 V; U_{RAC} = 100 V; U_{p-p} = 280 V (standard); C-tol. = ± 5 %

C (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 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 _t = 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 (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 mm ± 1.0 mm	ALL LEADS	PITCH 7.5 mm (BENT BACK)		ORIGINAL PITCH
				SPQ		SPQ	SPQ
Pitch = 15.0 mm ± 0.4 mm; d _t = 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	6.5 x 15.5 (17.0) x 18.5	1.3	32204	1500	36204	750	900
0.22			32224		36224		
0.24	7.0 x 16.0 (17.5) x 18.5	1.4	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 _t = 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			550
0.91	7.5 x 20.5 x 26.0	1.9	32914	600			500
1.0			32105				
1.1	8.0 x 21.0 x 26.0	2.0	32115	550			500
1.2	8.5 x 21.5 x 26.0	2.1	32125	500			450
1.3			32135				
1.5	9.5 x 22.5 x 26.0	2.4	32155	450			400
1.6			32165				
1.8	10.0 x 23.0 x 26.0	2.5	32185	400	400		
Pitch = 27.5 mm ± 0.4 mm; d _t = 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 (μF)	DIMENSIONS w _{max.} x h _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING	
			LOOSE IN BOX	
			l _t = 4.0 mm + 1.0 mm / - 0.5 mm	
				SPQ
Pitch = 10.0 mm ± 1.0 mm; d _t = 0.60 mm ± 0.06 mm				
0.075	6.0 x 18.0 x 12.5	0.9	90089	1400
0.082			90091	
0.091			90092	
0.10			90093	
0.11			90094	
0.12			90095	
0.13			90096	
0.15	6.5 x 18.5 x 12.5	1.0	90097	1250
0.16			90098	
Pitch = 15.0 mm ± 1.0 mm; d _t = 0.80 mm ± 0.08 mm				
0.18	6.0 x 18.0 x 18.5	1.2	90099	1500
0.20	6.5 x 18.5 x 18.5	1.3	90101	1250
0.22			90102	
0.24	7.0 x 19.0 x 18.5	1.4	90103	1250
0.27			90104	
0.30			90105	
0.33			90106	
0.36			90107	
0.39			90108	
0.43	7.5 x 19.5 x 18.5	1.5	90109	1000
0.47			90111	
0.51	8.0 x 20.0 x 18.5	1.6	90112	1000
0.56			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 _t = 0.80 mm ± 0.08 mm				
0.82	7.0 x 23.0 x 26.0	1.8	90117	850
0.91	7.5 x 23.5 x 26.0	1.9	90118	750
1.0			90119	
1.1	8.0 x 24.0 x 26.0	2.0	90121	700
1.2	8.5 x 24.5 x 26.0	2.1	90122	650
1.3			90036	
1.5	9.5 x 25.5 x 26.0	2.4	90037	550
1.6			90038	
1.8	10.0 x 26.0 x 26.0	2.5	90039	500
Pitch = 27.5 mm ± 1.0 mm; d _t = 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_{DC})

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) _R :		
P = 10.0 mm	70 V/ μs	
P = 15.0 mm	60 V/ μs	
P = 22.5 mm	30 V/ μs	
P = 27.5 mm	20 V/ μs	
R between leads, for $C \leq 1.0 \mu\text{F}$ at 100 V; 1 min	> 100 000 M Ω	
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 Ω	
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 ⁽¹⁾	400 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

⁽¹⁾ See "Voltage Proof Test for Metalized Film Capacitors": www.vishay.com/doc?28169

U_{RDC} = 250 V; U_{RAC} = 160 V; U_{p-p} = 450 V (standard); C-tol. = $\pm 5\%$

C (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 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 _t = 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 (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING					
			LOOSE IN BOX		REEL			
			l _t = 5.0 mm ± 1.0 mm	ALL LEADS	PITCH 7.5 mm (BENT BACK)		ORIGINAL PITCH	
				SPQ		SPQ	SPQ	
Pitch = 15.0 mm ± 0.4 mm; d _t = 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 _t = 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				500
0.68			42684					500
0.75	8.0 x 21.0 x 26.0	2.0	42754	550				500
0.82	8.5 x 21.5 x 26.0	2.1	42824	500				450
0.91	9.0 x 22.0 x 26.0	2.4	42914	450				450
1.0	9.5 x 22.5 x 26.0	2.5	42105	450				400
1.1	10.0 x 23.0 x 26.0	2.6	42115	400				400
1.2	10.5 x 23.5 x 26.0	2.7	42125	350				350
Pitch = 27.5 mm ± 0.4 mm; d _t = 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 (μF)	DIMENSIONS w _{max.} x h _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING	
			LOOSE IN BOX	
			l _t = 4.0 mm + 1.0 mm / - 0.5 mm	
				SPQ
Pitch = 10.0 mm ± 1.0 mm; d _t = 0.60 ± 0.06 mm				
0.047 0.051 0.056 0.062 0.068 0.075 0.082 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 _t = 0.80 mm ± 0.08 mm				
0.11 0.12 0.13 0.15 0.16 0.18 0.20 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 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 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 _t = 0.80 mm ± 0.08 mm				
0.51 0.56	7.0 x 23.0 x 26.0	1.8	90024	850
			90025	
0.62 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 _t = 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_{DC})

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
0.022 ≤ C ≤ 0.027	≤ 10 x 10 ⁻⁴	≤ 20 x 10 ⁻⁴
0.027 < C ≤ 0.075	≤ 10 x 10 ⁻⁴	≤ 25 x 10 ⁻⁴
0.075 μF < C ≤ 0.11 μF	≤ 10 x 10 ⁻⁴	≤ 30 x 10 ⁻⁴
0.11 μF < C ≤ 0.18 μF	≤ 10 x 10 ⁻⁴	≤ 35 x 10 ⁻⁴
0.18 μF < C ≤ 0.3 μF	≤ 10 x 10 ⁻⁴	≤ 40 x 10 ⁻⁴
0.3 μF < C ≤ 0.47 μF	≤ 10 x 10 ⁻⁴	≤ 60 x 10 ⁻⁴
0.47 μF < C ≤ 0.82 μF	≤ 15 x 10 ⁻⁴	≤ 90 x 10 ⁻⁴
0.82 μF < C ≤ 1.1 μF	≤ 15 x 10 ⁻⁴	≤ 100 x 10 ⁻⁴
1.1 μF < C ≤ 1.2 μF	≤ 15 x 10 ⁻⁴	≤ 120 x 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R at 400 V _{DC} :		
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 ⁽¹⁾	640 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

⁽¹⁾ See "Voltage Proof Test for Metalized Film Capacitors": www.vishay.com/doc?28169

U_{RDC} = 400 V; U_{RAC} = 200 V; U_{p-p} = 560 V (standard); C-tol. = ± 5 %

C (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 mm ± 1.0 mm	ALL LEADS	PITCH 7.5 mm (BENT BACK)		ORIGINAL PITCH
						SPQ	
Pitch = 10.0 mm ± 0.4 mm; d _t = 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 (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 mm ± 1.0 mm	ALL LEADS	PITCH 7.5 mm (BENT BACK)		ORIGINAL PITCH
				SPQ		SPQ	SPQ
Pitch = 15.0 mm ± 0.4 mm; d _t = 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 _t = 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			600
0.27	7.0 x 20.0 x 26.0	1.8	52274	650			550
0.30	7.5 x 20.5 x 26.0	1.9	52304	600			500
0.33			52334				
0.36	8.0 x 21.0 x 26.0	2.0	52364	550			500
0.39	8.5 x 21.5 x 26.0	2.1	52394	500			450
0.43			52434				
0.47	9.0 x 22.0 x 26.0	2.4	52474	450			450
0.51	9.5 x 22.5 x 26.0	2.5	52514	450			400
0.56	10.0 x 23.0 x 26.0	2.6	52564	400			400
0.62	10.5 x 23.5 x 26.0	2.7	52624	350			350
Pitch = 27.5 mm ± 0.4 mm; d _t = 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 (μF)	DIMENSIONS w _{max.} x h _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING	
			LOOSE IN BOX	
			l _t = 4.0 mm + 1.0 mm / - 0.5 mm	
			SPQ	
Pitch = 10.0 mm ± 1.0 mm; d _t = 0.60 mm ± 0.06 mm				
0.022 0.024 0.027 0.030 0.033	6.0 x 18.0 x 12.5	0.9	90153	1400
90154				
90155				
90156				
90157				
0.036 0.039 0.043 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 _t = 0.80 mm ± 0.08 mm				
0.051 0.056 0.062 0.068 0.075 0.082	6.5 x 18.5 x 18.5	1.3	90163	1250
90164				
90165				
90166				
90167				
90168				
0.091 0.10 0.11 0.12	7.0 x 19.0 x 18.5	1.4	90169	1250
90171				
90172				
90173				
0.13 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 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 _t = 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 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 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 _t = 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_{DC})

DESCRIPTION	VALUE	
Tangent of loss angle: 0.01 $\mu\text{F} < C \leq 0.027 \mu\text{F}$ 0.027 $\mu\text{F} < C \leq 0.075 \mu\text{F}$ 0.075 $\mu\text{F} < C \leq 0.11 \mu\text{F}$ 0.11 $\mu\text{F} < C \leq 0.18 \mu\text{F}$ 0.18 $\mu\text{F} < C \leq 0.3 \mu\text{F}$ 0.3 $\mu\text{F} < C \leq 0.47 \mu\text{F}$ 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) _R at 630 V _{DC} : P = 10.0 mm P = 15.0 mm P = 22.5 mm P = 27.5 mm	100 V/ μs	
	90 V/ μs	
	45 V/ μs	
	30 V/ μs	
R between leads, for $C \leq 1.0 \mu\text{F}$ at 500 V; 1 min	> 100 000 M Ω	
R between leads and case; 500 V; 1 min	> 100 000 M Ω	
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 ⁽¹⁾	1008 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

⁽¹⁾ See "Voltage Proof Test for Metalized Film Capacitors": www.vishay.com/doc?28169

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

C (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 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 _t = 0.60 mm ± 0.06 mm				Pitch = 7.5 mm (bent back)		Pitch = 10.0 mm	
0.010 0.011 0.012 0.013 0.015 0.016 0.018 0.020 0.022 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 _t = 0.80 mm ± 0.08 mm				Pitch = 7.5 mm (bent back)		Pitch = 15.0 mm	
0.030 0.033 0.036 0.039 0.043 0.047 0.051 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 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 (μF)	DIMENSIONS w _{max.} x h (h') _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 mm ± 1.0 mm	ALL LEADS	PITCH 7.5 mm (BENT BACK)		ORIGINAL PITCH
				SPQ		SPQ	SPQ
Pitch = 22.5 mm ± 0.4 mm; d _t = 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		600	
0.13	7.0 x 20.0 x 26.0	1.8	62134	650		550	
0.15	7.5 x 20.5 x 26.0	1.9	62154	600		500	
0.16			62164				
0.18	8.0 x 21.0 x 26.0	2.0	62184	550		500	
0.20	8.5 x 21.5 x 26.0	2.1	62204	500		450	
0.22	9.0 x 22.0 x 26.0	2.4	62224	450		450	
0.24			62244				
0.27	9.5 x 22.5 x 26.0	2.5	62274	450		400	
0.30	10.0 x 23.0 x 26.0	2.7	62304	400		400	
Pitch = 27.5 mm ± 0.4 mm; d _t = 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. = $\pm 5 \%$

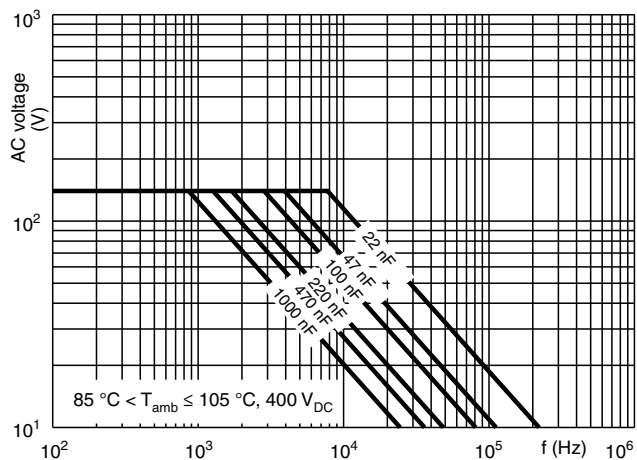
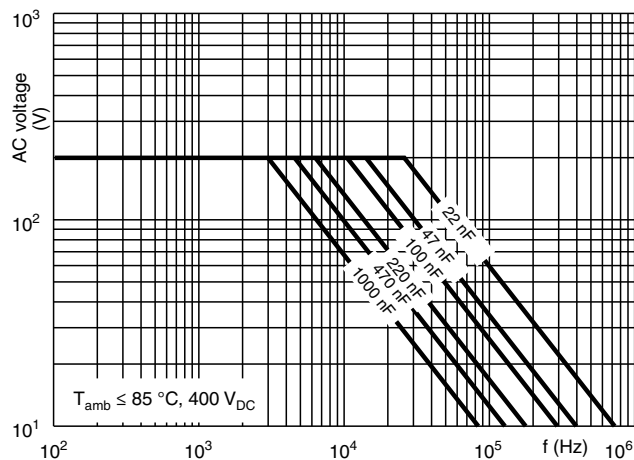
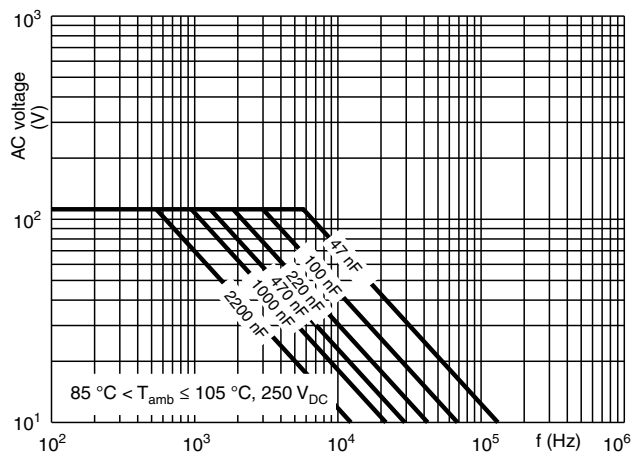
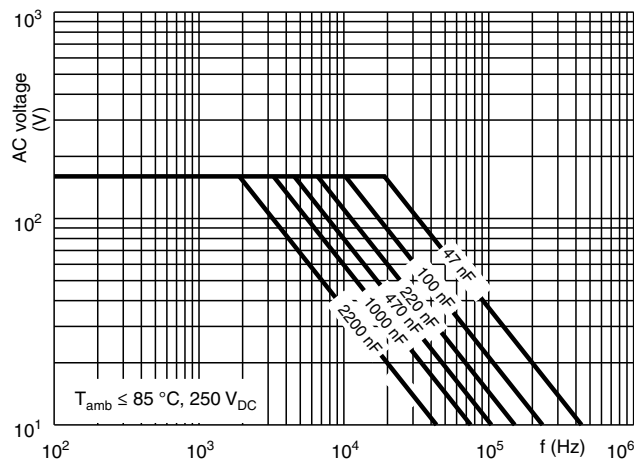
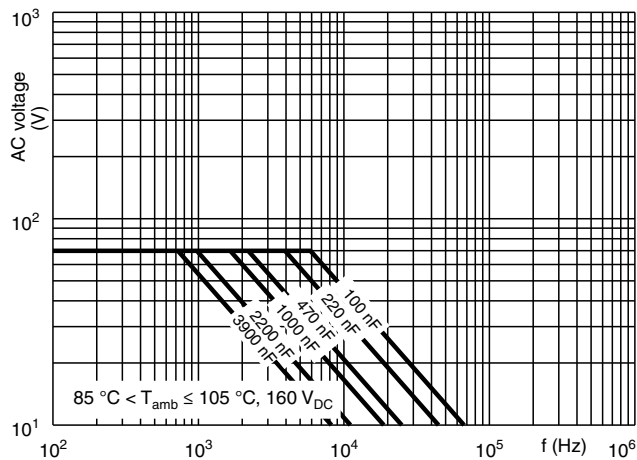
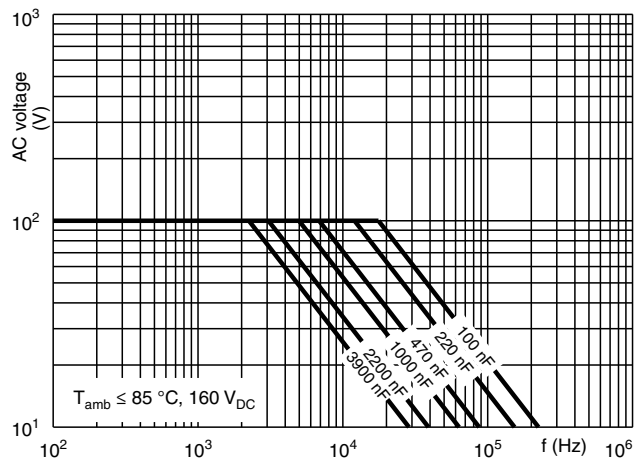
C (μ F)	DIMENSIONS $w_{max.} \times h_{max.} \times l_{max.}$ (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 \text{ mm} + 1.0 \text{ mm} / - 0.5 \text{ mm}$	
				SPQ
Pitch = 10.0 mm $\pm$ 1.0 mm; $d_t = 0.60 \text{ mm} \pm 0.06 \text{ mm}$				
0.010	6.0 x 18.0 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

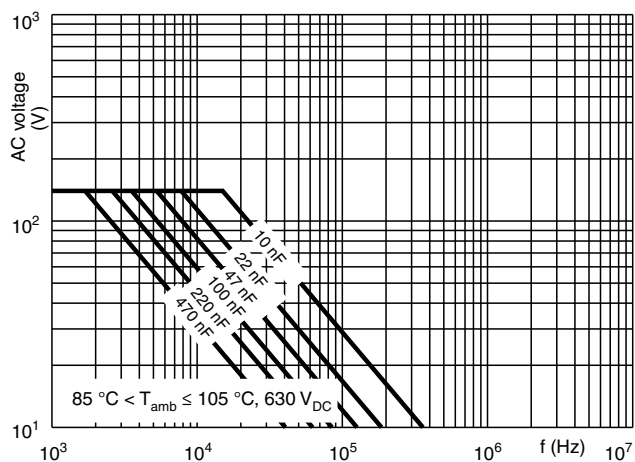
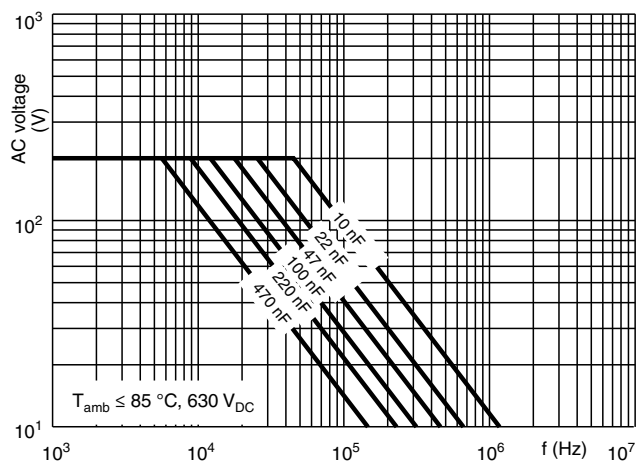


C (μF)	DIMENSIONS w _{max.} x h _{max.} x l _{max.} (mm)	MASS (g)	CATALOG NUMBER BFC2479..... AND PACKAGING	
			LOOSE IN BOX	
			l _t = 4.0 mm + 1.0 mm / - 0.5 mm	
				SPQ
Pitch = 15.0 mm ± 1.0 mm; d _t = 0.80 mm ± 0.08 mm				
0.030	6.5 x 18.5 x 18.5	1.3	90212	1250
0.033			90213	
0.036			90214	
0.039			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 _t = 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 _t = 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

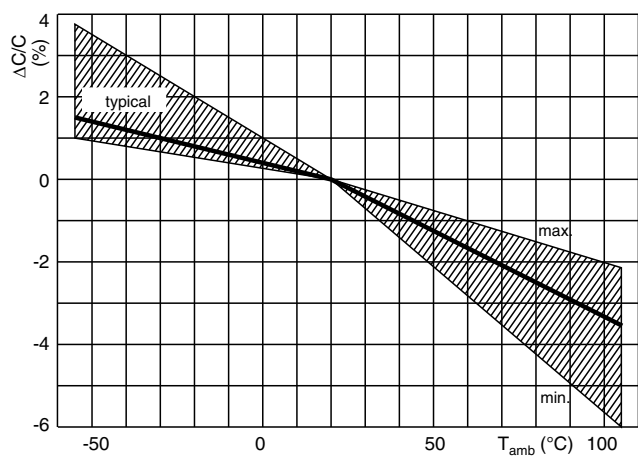


MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY

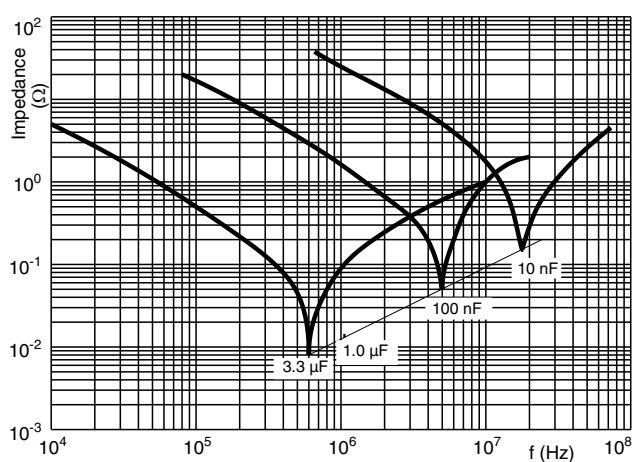




CAPACITANCE



IMPEDANCE





Disclaimer

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.