

**AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type**

APPLICATIONS

Where steep pulses occur e.g. SMPS (switch mode power supplies). Motor control circuits. S - correction. Electronic lighting e.g. Ballast. The 1400 V, 1600 V and 2000 V series may be used in flyback circuits in television receivers.

MARKING

C-value; tolerance; rated voltage; manufacturer; manufacturer's type designation; code for dielectric material; year and week of manufacture; batchnumber

DIELECTRIC

Polypropylene film

ELECTRODES

Metallized film

COATING

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

CONSTRUCTION

Internal serial construction

LEADS

Tinned wire

CAPACITANCE RANGE (E24 SERIES):

0.001 to 2.7 μ F

CAPACITANCE TOLERANCE:

\pm 5%; \pm 3%

RATED (DC) VOLTAGE

250 V; 400 V; 630 V; 1000 V; 1400 V; 1600 V; 2000 V

RATED (AC) VOLTAGE

125 V; 200 V; 220 V; 350 V; 425 V; 460 V; 530 V

RATED PEAK-TO-PEAK VOLTAGE

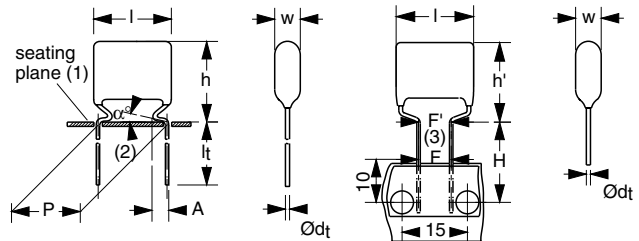
350 V; 560 V; 630 V; 1000 V;
1200 V; 1300 V; 1500 V

CLIMATIC CATEGORY

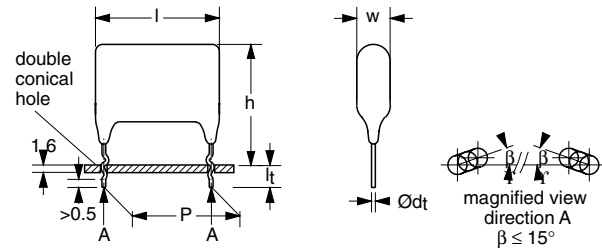
55/105/56

RATED TEMPERATURE

85 °C



- 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) $A = 2.5 + 1.5/-0.5$ mm.



Dimensions in mm.



MAXIMUM APPLICATION TEMPERATURE

105 °C

REFERENCE SPECIFICATIONS

IEC 60384-17

PERFORMANCE GRADE

Grade 1 (long life)

STABILITY GRADE

Grade 2

FEATURES

7.5 mm bent back pitch. 15 to 27.5 mm lead pitch. Low contact resistance. Low loss dielectric. Supplied loose in box (including lock lead versions) and taped on reel

Lead (Pb)-free product



DETAIL SPECIFICATION

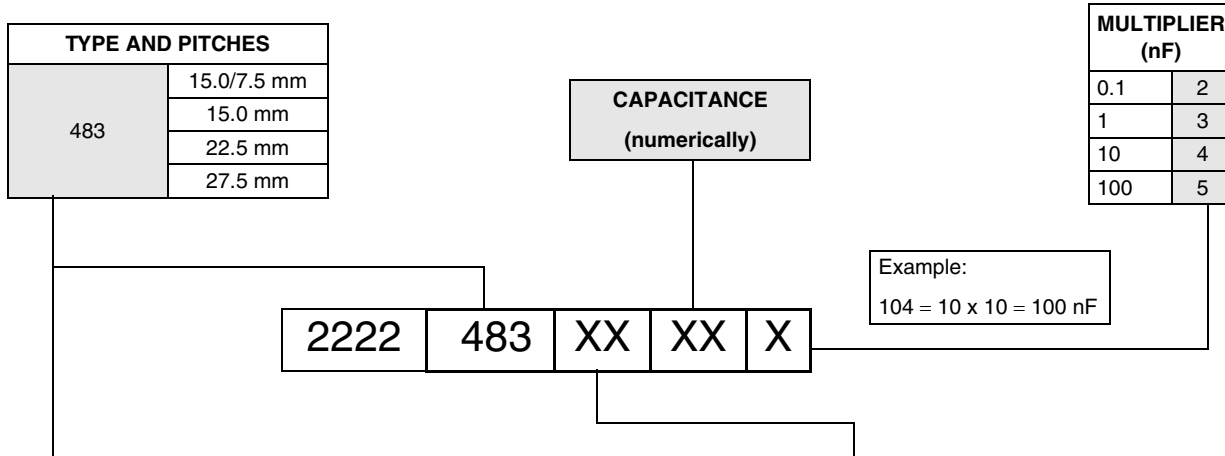
For more detailed data and test requirements contact:
filmcaps.roeselare@vishay.com



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

COMPOSITION OF CATALOG NUMBER



TYPE	PACKAGING	LEAD CONFIGURATION	PREFERRED TYPES							
			C-TOL	250 V	400 V	630 V	1000 V	1400 V	1600 V	2000 V
483	loose in box	lead length 5.0 ±1.0 mm	±5%	01	11	21	31	41	51	61
		lock lead 4.0 +1.0/-0.5 mm	±5%	04	14	24	34	44	54	64
	Taped on reel (bent back)	H = 16.0 mm; P ₀ = 15.0 mm; reel diameter 500 mm	±5%	03	13	23	33	43	53	63
			dimensions of this code numbers stays between brackets							
			ON REQUEST							
483	loose in box	lead length 5.0 ±1.0 mm	±3%	-	-	-	36	46	56	66
		lead length 3.5 ±0.5 mm	±5%	00	10	20	30	40	50	60
			±3%	-	-	-	35	45	55	65
		lock lead 4.0 +1.0/-0.5 mm	±3%	-	-	-	39	49	59	69
	Taped on reel	H = 16.0 mm; P ₀ = 12.7 mm; reel diameter 500 mm	±5%	02	12	22	32	42	52	62
	Taped on reel (bent back)	H = 16.0 mm; P ₀ = 15.0 mm; reel diameter 500 mm	±3%	-	-	-	37	47	57	67
			dimensions of this code numbers stays between brackets							
Taped on reel	H = 16.0 mm; P ₀ = 12.7 mm; reel diameter 500 mm	±3%	-	-	-	38	48	58	68	

SPECIFIC REFERENCE DATA (250 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
C ≤ 0.15 μF	≤ 5 × 10 ⁻⁴	≤ 20 × 10 ⁻⁴
0.15 μF < C ≤ 0.39 μF	≤ 5 × 10 ⁻⁴	≤ 25 × 10 ⁻⁴
0.39 μF < C ≤ 0.56 μF	≤ 10 × 10 ⁻⁴	≤ 45 × 10 ⁻⁴
0.56 μF < C ≤ 0.82 μF	≤ 10 × 10 ⁻⁴	≤ 50 × 10 ⁻⁴
0.82 μF < C ≤ 1.2 μF	≤ 10 × 10 ⁻⁴	≤ 65 × 10 ⁻⁴
1.2 μF < C ≤ 1.8 μF	≤ 15 × 10 ⁻⁴	≤ 75 × 10 ⁻⁴
1.8 μF < C ≤ 2.2 μF	≤ 15 × 10 ⁻⁴	≤ 85 × 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R :		
Pitch = 15 mm and 7.5 mm (bent back) for C ≤ 0.16 μF	450 V/μs	
Pitch = 15 mm and 7.5 mm (bent back) for 0.16 μF < C ≤ 0.39 μF	900 V/μs	
P = 22.5 mm	290 V/μs	
P = 27.5 mm	190 V/μs	
R between leads, for C ≤ 1 μF at 100 V; 1 minute	>100000 MΩ	
RC between leads, for C >1 μF at 100 V; 1 minute	>100000 s	
R between leads and case; 100 V; 1 minute	>30000 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	400 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

$U_{Rdc} = 250 \text{ V}$; $U_{Rac} = 125 \text{ V}$; $U_{p-p} = 350 \text{ V}$ (standard)

C (μF)	DIMENSIONS $w_{\text{max}} \times h \text{ (h')}_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0 \text{ mm}$	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 15.0 mm
0.082	6.0 \times 15.0 (16.5) \times 18.0	1.3	01823	2000	03823	800	1000
0.091			01913		03913		
0.1			01104		03104		
0.11	6.5 \times 15.5 (17.0) \times 18.0	1.4	01114	1500	03114	750	900
0.12			01124		03124		
0.13			01134		03134		
0.15	7.0 \times 16.0 (17.5) \times 18.0	1.5	01154	1500	03154	700	800
0.16			01164		03164		
0.18	7.5 \times 16.5 (18.0) \times 18.0	1.6	01184	1250	03184	650	800
0.2	8.0 \times 17.0 (18.5) \times 18.0	1.7	01204	1250	03204	600	750
0.22			01224		03224		
0.24	8.5 \times 17.5 (19.0) \times 18.0	1.8	01244	1000	03244	600	700
0.27	9.0 \times 18.0 (19.5) \times 18.0	1.9	01274	900	03274	550	600
0.3	9.5 \times 18.5 (20.0) \times 18.0	2.0	01304	900	03304	500	600
0.33	10.0 \times 19.0 (20.5) \times 18.0	2.1	01334	800	03334	500	600
0.36			01364		03364		
0.39	10.5 \times 19.5 (21.0) \times 18.0	2.2	01394	800	03394	450	500
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 22.5 mm
0.43	8.0 \times 21.0 \times 26.0	2.4	01434	550			
0.47	8.5 \times 21.5 \times 26.0	2.5	01474	500			
0.51			01514				
0.56	9.0 \times 22.0 \times 26.0	2.6	01564	450			
0.62	9.5 \times 22.5 \times 26.0	2.8	01624	450			
0.68	10.0 \times 23.0 \times 26.0	3.0	01684	400			
0.75	10.5 \times 23.5 \times 26.0	3.2	01754	350			
0.82	11.0 \times 24.0 \times 26.0	3.5	01824	350			
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 27.5 mm
0.91	10.0 \times 23.0 \times 31.0	5.0	01914	500			
1.0	10.5 \times 23.5 \times 31.0	5.0	01105	450			
1.1	11.0 \times 24.0 \times 31.0	5.5	01115	400			
1.2	11.5 \times 24.5 \times 31.0	5.5	01125	400			
1.3	12.0 \times 25.0 \times 31.0	6.0	01135	350			
1.5	13.0 \times 26.0 \times 31.0	6.5	01155	300			
1.6	13.5 \times 26.5 \times 31.0	7.0	01165	300			
1.8	14.0 \times 27.0 \times 31.0	7.0	01185	300			
2.0	15.0 \times 28.0 \times 31.0	8.0	01205	250			
2.2	15.5 \times 28.5 \times 31.0	8.5	01225	250			



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

$U_{Rdc} = 250\text{ V}$; $U_{Rac} = 125\text{ V}$; $U_{p-p} = 350\text{ V}$ (lock lead)

C (μF)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5\text{ mm}$	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.082	6.0 \times 18.0 \times 18.0	1.3	04823	2000
0.091			04913	
0.1			04104	
0.11	6.5 \times 18.5 \times 18.0	1.4	04114	1500
0.12			04124	
0.13			04134	
0.15	7.0 \times 19.0 \times 18.0	1.5	04154	1500
0.16			04164	
0.18	7.5 \times 19.5 \times 18.0	1.6	04184	1250
0.2	8.0 \times 20.0 \times 18.0	1.7	04204	1250
0.22			04224	
0.24	8.5 \times 20.5 \times 18.0	1.8	04244	1000
0.27	9.0 \times 21.0 \times 18.0	1.9	04274	900
0.3	9.5 \times 21.5 \times 18.0	2.0	04304	900
0.33	10.0 \times 22.0 \times 18.0	2.1	04334	800
0.36			04364	
0.39			04394	
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.43	8.0 \times 24.0 \times 26.0	2.4	04434	550
0.47	8.5 \times 24.5 \times 26.0	2.5	04474	500
0.51			04514	
0.56	9.0 \times 25.0 \times 26.0	2.6	04564	450
0.62	9.5 \times 25.5 \times 26.0	2.8	04624	450
0.68	10.0 \times 26.0 \times 26.0	3.0	04684	400
0.75	10.5 \times 26.5 \times 26.0	3.2	04754	350
0.82	11.0 \times 27.0 \times 26.0	3.5	04824	350
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.91	10.0 \times 26.0 \times 31.0	5.0	04914	500
1.0	10.5 \times 26.5 \times 31.0	5.0	04105	450
1.1	11.0 \times 27.0 \times 31.0	5.5	04115	400
1.2	11.5 \times 27.5 \times 31.0	5.5	04125	400
1.3	12.0 \times 28.0 \times 31.0	6.0	04135	350
1.5	13.0 \times 29.0 \times 31.0	6.5	04155	300
1.6	13.5 \times 29.5 \times 31.0	7.0	04165	300
1.8	14.0 \times 30.0 \times 31.0	7.0	04185	300
2.0	15.0 \times 31.0 \times 31.0	8.0	04205	250
2.2	15.5 \times 31.5 \times 31.0	8.5	04225	250

SPECIFIC REFERENCE DATA (400 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: C ≤ 0.22 μF	≤ 5 × 10 ⁻⁴	≤ 20 × 10 ⁻⁴
0.22 μF < C ≤ 0.33 μF	≤ 10 × 10 ⁻⁴	≤ 35 × 10 ⁻⁴
0.33 μF < C ≤ 0.43 μF	≤ 10 × 10 ⁻⁴	≤ 40 × 10 ⁻⁴
0.43 μF < C ≤ 0.68 μF	≤ 10 × 10 ⁻⁴	≤ 50 × 10 ⁻⁴
0.68 μF < C ≤ 0.82 μF	≤ 10 × 10 ⁻⁴	≤ 55 × 10 ⁻⁴
0.82 μF < C ≤ 1.2 μF	≤ 10 × 10 ⁻⁴	≤ 60 × 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R : Pitch = 15 mm and 7.5 mm (bent back) for C ≤ 0.082 μF Pitch = 15 mm and 7.5 mm (bent back) for 0.082 μF < C ≤ 0.22 μF P = 22.5 mm P = 27.5 mm	600 V/μs 1200 V/μs 410 V/μs 260 V/μs	
R between leads, for C ≤ 1 μF at 100 V; 1 minute	>100000 MΩ	
RC between leads, for C > 1 μF at 100 V; 1 minute	>100000 s	
R between leads and case; 100 V; 1 minute	>30000 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	640 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

U_{Rdc} = 400 V; U_{Rac} = 200 V; U_{p-p} = 560 V (standard)

C (μF)	DIMENSIONS W _{max} × h (h') _{max} × l _{max} (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 ± 1.0 mm	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = ±5%	SPQ	C-tol = ±5%		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					pitch = 7.5 mm (bent back)	pitch = 15.0 mm	
0.047	6.0 × 15.0 (16.5) × 18.0	1.3	11473	2000	13473	800	1000
0.051			11513		13513		
0.056			11563		13563		
0.062	6.5 × 15.5 (17.0) × 18.0	1.4	11623	1500	13623	750	900
0.068			11683		13683		
0.075	7.0 × 16.0 (17.5) × 18.0	1.5	11753	1500	13753	700	800
0.082			11823		13823		
0.091	7.5 × 16.5 (18.0) × 18.0	1.6	11913	1250	13913	650	800
0.1			11104		13104		
0.11	8.0 × 17.0 (18.5) × 18.0	1.7	11114	1250	13114	600	750
0.12	8.5 × 17.5 (19.0) × 18.0	1.8	11124	1000	13124	600	700
0.13			11134		13134		
0.15	9.0 × 18.0 (19.5) × 18.0	1.9	11154	900	13154	550	600
0.16	9.5 × 18.5 (20.0) × 18.0	2.0	11164	900	13164	500	600
0.18	10.0 × 19.0 (20.5) × 18.0	2.1	11184	800	13184	500	600
0.2	10.5 × 19.5 (21.0) × 18.0	2.2	11204	800	13204	450	500
0.22			11224		13224		
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					pitch = 7.5 mm (bent back)	pitch = 22.5 mm	
0.24	8.5 × 21.5 × 26.0	2.5	11244	500			
0.27			11274				
0.3	9.0 × 22.0 × 26.0	2.6	11304	450			
0.33	9.5 × 22.5 × 26.0	2.8	11334	450			
0.36	10.0 × 23.0 × 26.0	3.0	11364	400			
0.39			11394				
0.43	10.5 × 23.5 × 26.0	3.2	11434	350			



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

C (μ F)	DIMENSIONS $W_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING			
			LOOSE IN BOX		REEL	
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)	pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$	
last 5 digits of catalog number	last 5 digits of catalog number	SPQ	SPQ			
Pitch = 27.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)	pitch = 27,5 mm
0.47	10.0 \times 23.0 \times 31.0	5.0	11474	500		
0.51	10.5 \times 23.5 \times 31.0	5.0	11514	450		
0.56	11.0 \times 24.0 \times 31.0	5.5	11564	400		
0.62	11.5 \times 24.5 \times 31.0	5.5	11624	400		
0.68	12.0 \times 25.0 \times 31.0	6.0	11684	350		
0.75	12.5 \times 25.5 \times 31.0	6.5	11754	350		
0.82	13.0 \times 26.0 \times 31.0	6.5	11824	300		
0.91	13.5 \times 26.5 \times 31.0	7.0	11914	300		
1	14.0 \times 27.0 \times 31.0	7.0	11105	300		
1.1	15.0 \times 28.0 \times 31.0	8.0	11115	250		
1.2	15.5 \times 28.5 \times 31.0	8.5	11125	250		

$U_{Rdc} = 400$ V; $U_{Rac} = 200$ V; $U_{p-p} = 560$ V (lock lead)

C (μ F)	DIMENSIONS $W_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 + 1.0/-0.5$ mm	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 15.0 \pm0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.047	6.0 \times 18.0 \times 18.0	1.3	14473	2000
0.051			14513	
0.056			14563	
0.062	6.5 \times 18.5 \times 18.0	1.4	14623	1500
0.068			14683	
0.075	7.0 \times 19.0 \times 18.0	1.5	14753	1500
0.082			14823	
0.091	7.5 \times 19.5 \times 18.0	1.6	14913	1250
0.1			14104	
0.11	8.0 \times 20.0 \times 18.0	1.7	14114	1250
0.12	8.5 \times 20.5 \times 18.0	1.8	14124	1000
0.13			14134	
0.15	9.0 \times 21.0 \times 18.0	1.9	14154	900
0.16	9.5 \times 21.5 \times 18.0	2.0	14164	900
0.18	10.0 \times 22.0 \times 18.0	2.1	14184	800
0.2	10.5 \times 22.5 \times 18.0	2.2	14204	800
0.22			14224	
Pitch = 22.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.24	8.5 \times 24.5 \times 26.0	2.5	14244	500
0.27			14274	
0.3	9.0 \times 25.0 \times 26.0	2.6	14304	450
0.33	9.5 \times 25.5 \times 26.0	2.8	14334	450
0.36	10.0 \times 26.0 \times 26.0	3.0	14364	400
0.39			14394	
0.43	10.5 \times 26.5 \times 26.0	3.2	14434	350

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5 \text{ mm}$	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 27.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08 \text{ mm}$				
0.47	10.0 \times 26.0 \times 31.0	5.0	14474	500
0.51	10.5 \times 26.5 \times 31.0	5.0	14514	450
0.56	11.0 \times 27.0 \times 31.0	5.5	14564	400
0.62	11.5 \times 27.5 \times 31.0	5.5	14624	400
0.68	12.0 \times 28.0 \times 31.0	6.0	14684	350
0.75	12.5 \times 28.5 \times 31.0	6.5	14754	350
0.82	13.0 \times 29.0 \times 31.0	6.5	14824	300
0.91	13.5 \times 29.5 \times 31.0	7.0	14914	300
1	14.0 \times 30.0 \times 31.0	7.0	14105	300
1.1	15.0 \times 31.0 \times 31.0	8.0	14115	250
1.2	15.5 \times 31.5 \times 31.0	8.5	14125	250

SPECIFIC REFERENCE DATA (630 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle: C \leq 0.15 μF 0.15 μF < C \leq 0.22 μF 0.22 μF < C \leq 0.3 μF 0.3 μF < C \leq 0.47 μF 0.47 μF < C \leq 0.68 μF	at 10 kHz	at 100 kHz
	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
	$\leq 8 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
	$\leq 8 \times 10^{-4}$	$\leq 30 \times 10^{-4}$
	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) _R : Pitch = 15 mm and 7.5 mm (bent back) for C \leq 0.051 μF Pitch = 15 mm and 7.5 mm (bent back) for 0.051 μF < C \leq 0.15 μF P = 22.5 mm P = 27.5 mm	700 V/ μs	
	1400 V/ μs	
	470 V/ μs	
	300 V/ μs	
R between leads, for C \leq 1 μF at 500 V; 1 minute	$> 100000 \text{ M}\Omega$	
R between leads and case; 500 V; 1 minute	$> 30000 \text{ M}\Omega$	
Ionization (AC) voltage (typical value) at 50 pC peak discharge	$> 220 \text{ V}$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	1000 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

$U_{\text{Rdc}} = 630 \text{ V}$; $U_{\text{Rac}} = 220 \text{ V}$; $U_{\text{p-p}} = 630 \text{ V}$ (standard)

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0 \text{ mm}$	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
Pitch = 15.0 \pm0.4 mm; $d_t = 0.80 \pm 0.08 \text{ mm}$					pitch = 7.5 mm (bent back)		pitch = 15.0 mm
0.03	6.0 \times 15.0 (16.5) \times 18.0	1.3	21303	2000	23303	800	1000
0.033			21333		23333		
0.036	6.5 \times 15.5 (17.0) \times 18.0	1.4	21363	1500	23363	750	900
0.039			21393		23393		
0.043			21433		23433		
0.047	7.0 \times 16.0 (17.5) \times 18.0	1.5	21473	1500	23473	700	800
0.051			21513		23513		



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

C (μ F)	DIMENSIONS $W_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
0.056 0.062	7.5 × 16.5 (18.0) × 18.0	1.6	21563 21623	1250	23563 23623	650	800
0.068 0.075	8.0 × 17.0 (18.5) × 18.0	1.7	21683 21753	1250	23683 23753	600	750
0.082	8.5 × 17.5 (19.0) × 18.0	1.8	21823	1000	23823	600	700
0.091	9.0 × 18.0 (19.5) × 18.0	1.9	21913	900	23913	550	600
0.1 0.11	9.5 × 18.5 (20.0) × 18.0	2.0	21104 21114	900	23104 23114	500	600
0.12	10.0 × 19.0 (20.5) × 18.0	2.1	21124	800	23124	500	600
0.13	10.5 × 19.5 (21.0) × 18.0	2.2	21134	800	23134	450	500
0.15	11.0 × 20.0 (21.5) × 18.0	2.3	21154	800	23154	450	500
Pitch = 22.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 22.5 mm
0.16	8.5 × 21.5 × 26.0	2.5	21164	500			
0.18	9.0 × 22.0 × 26.0	2.6	21184	450			
0.2 0.22	9.5 × 22.5 × 26.0	2.8	21204 21224	450			
0.24	10.0 × 23.0 × 26.0	3.0	21244	400			
0.27	10.5 × 23.5 × 26.0	3.2	21274	350			
0.3	11.0 × 24.0 × 26.0	3.5	21304	350			
Pitch = 27.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm							
0.33	10.5 × 23.5 × 31.0	5.0	21334	450			
0.36 0.39	11.0 × 24.0 × 31.0	5.5	21364 21394	400			
0.43	11.5 × 24.5 × 31.0	5.5	21434	400			
0.47	12.0 × 25.0 × 31.0	6.0	21474	350			
0.51	12.5 × 25.5 × 31.0	6.5	21514	350			
0.56	13.5 × 26.5 × 31.0	6.5	21564	300			
0.62	14.0 × 27.0 × 31.0	7.0	21624	300			
0.68	14.5 × 27.5 × 31.0	7.5	21684	250			

$U_{Rdc} = 630$ V; $U_{Rac} = 220$ V; $U_{p-p} = 630$ V (lock lead)

C (μ F)	DIMENSIONS $W_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5$ mm	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 15.0 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.03 0.033	6.0 × 18.0 × 18.0	1.3	24303 24333	2000
0.036 0.039 0.043	6.5 × 18.5 × 18.0	1.4	24363 24393 24433	1500
0.047 0.051	7.0 × 19.0 × 18.0	1.5	24473 24513	1500
0.056 0.062	7.5 × 19.5 × 18.0	1.6	24563 24623	1250
0.068 0.075	8.0 × 20.0 × 18.0	1.7	24683 24753	1250

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5 \text{ mm}$	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
0.082	8.5 × 20.5 × 18.0	1.8	24823	1000
0.091	9.0 × 21.0 × 18.0	1.9	24913	900
0.1	9.5 × 21.5 × 18.0	2.0	24104	900
0.11			24114	
0.12	10.0 × 22.0 × 18.0	2.1	24124	800
0.13	10.5 × 22.5 × 18.0	2.2	24134	800
0.15	11.0 × 23.0 × 18.0	2.3	24154	800

SPECIFIC REFERENCE DATA (1000 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle: $C \leq 0.062 \mu\text{F}$ $0.062 \mu\text{F} < C \leq 0.13 \mu\text{F}$ $0.13 \mu\text{F} < C \leq 0.22 \mu\text{F}$ $0.22 \mu\text{F} < C \leq 0.33 \mu\text{F}$	at 10 kHz	at 100 kHz
	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
	$\leq 6 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
	$\leq 8 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) _R : Pitch = 15 mm and 7.5 mm (bent back) for $C \leq 0.024 \mu\text{F}$ Pitch = 15 mm and 7.5 mm (bent back) for $0.024 \mu\text{F} < C \leq 0.062 \mu\text{F}$ P = 22.5 mm P = 27.5 mm	1700 V/ μs	
	3300 V/ μs	
	1200 V/ μs	
	700 V/ μs	
R between leads, for $C \leq 1 \mu\text{F}$ at 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>30000 M Ω	
Ionization (AC) voltage (typical value) at 50 pC peak discharge	>440 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	1600 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

$U_{Rdc} = 1000 \text{ V}$; $U_{Rac} = 350 \text{ V}$; $U_{p-p} = 1000 \text{ V}$ (standard)

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0 \text{ mm}$	all leads	pitch = 7.5 mm (bent back)	pitch = 15 mm	
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		
last 5 digits of catalog number	last 5 digits of catalog number	SPQ	SPQ				
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm			pitch = 7.5 mm (bent back)		pitch = 15.0 mm		
0.0043	6.0 × 15.0 (16.5) × 18.0	1.3	31432	2000	33432	800	1000
0.0047			31472		33472		
0.0051			31512		33512		
0.0056			31562		33562		
0.0062			31622		33622		
0.0068			31682		33682		
0.0075			31752		33752		
0.0082			31822		33822		
0.0091			31912		33912		
0.010			31103		33103		



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
0.011 0.012 0.013 0.015 0.016	6.0 × 15.0 (16.5) × 18.0	1.3	31113 31123 31133 31153 31163	2000	33113 33123 33133 33153 33163	800	1000
0.018 0.02	6.5 × 15.5 (17.0) × 18.0	1.4	31183 31203	1500	33183 33203	750	900
0.022 0.024	7.0 × 16.0 (17.5) × 18.0	1.5	31223 31243	1500	33223 33243	700	800
0.027 0.03	7.5 × 16.5 (18.0) × 18.0	1.6	31273 31303	1250	33273 33303	650	800
0.033	8.0 × 17.0 (18.5) × 18.0	1.7	31333	1250	33333	600	750
0.036 0.039	8.5 × 17.5 (19.0) × 18.0	1.8	31363 31393	1000	33363 33393	600	700
0.043	9.0 × 18.0 (19.5) × 18.0	1.9	31433	900	33433	550	600
0.047 0.051	9.5 × 18.5 (20.0) × 18.0	2.0	31473 31513	900	33473 33513	500	600
0.056	10.0 × 19.0 (20.5) × 18.0	2.1	31563	800	33563	500	600
0.062	10.5 × 19.5 (21.0) × 18.0	2.2	31623	800	33623	450	500
Pitch = 22.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 22.5 mm
0.068	8.0 × 21.0 × 26.0	2.4	31683	550			
0.075	8.5 × 21.5 × 26.0	2.5	31753	500			
0.082 0.091	9.0 × 22.0 × 26.0	2.6	31823 31913	450			
0.1	9.5 × 22.5 × 26.0	2.8	31104	450			
0.11	10.0 × 23.0 × 26.0	3.0	31114	400			
0.12	10.5 × 23.5 × 26.0	3.2	31124	350			
0.13	11.0 × 24.0 × 26.0	3.5	31134	350			
Pitch = 27.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 27.5 mm
0.15	10.0 × 23.0 × 31.0	5.0	31154	500			
0.16	10.5 × 23.5 × 31.0	5.0	31164	450			
0.18	11.0 × 24.0 × 31.0	5.5	31184	400			
0.2	11.5 × 24.5 × 31.0	5.5	31204	400			
0.22	12.0 × 25.0 × 31.0	6.0	31224	350			
0.24	12.5 × 25.5 × 31.0	6.5	31244	350			
0.27	13.5 × 26.5 × 31.0	7.0	31274	300			
0.3	14.0 × 27.0 × 31.0	7.0	31304	300			
0.33	15.0 × 28.0 × 31.0	8.0	31334	250			

MMKP 483



Vishay BCcomponents

AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

$U_{Rdc} = 1000\text{ V}$; $U_{Rac} = 350\text{ V}$; $U_{p-p} = 1000\text{ V}$ (lock lead)

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5\text{ mm}$	
			C-tol = $\pm 5\%$ last 5 digits of catalog number	SPQ
Pitch = 15.0 \pm0.4 mm; $d_t = 0.80 \pm 0.08\text{ mm}$				
0.0043	6.0 \times 18.0 \times 18.0	1.3	34432	2000
0.0047			34472	
0.0051			34512	
0.0056			34562	
0.0062			34622	
0.0068			34682	
0.0075			34752	
0.0082			34822	
0.0091			34912	
0.010			34103	
0.011			34113	
0.012			34123	
0.013			34133	
0.015			34153	
0.016			34163	
0.018	6.5 \times 18.5 \times 18.0	1.4	34183	1500
0.02			34203	
0.022	7.0 \times 19.0 \times 18.0	1.5	34223	1500
0.024			34243	
0.027	7.5 \times 19.5 \times 18.0	1.6	34273	1250
0.03			34303	
0.033	8.0 \times 20.0 \times 18.0	1.7	34333	1250
0.036	8.5 \times 20.5 \times 18.0	1.8	34363	1000
0.039			34393	
0.043	9.0 \times 21.0 \times 18.0	1.9	34433	900
0.047	9.5 \times 21.5 \times 18.0	2.0	34473	900
0.051			34513	
0.056	10.0 \times 22.0 \times 18.0	2.1	34563	800
0.062	10.5 \times 22.5 \times 18.0	2.2	34623	800
Pitch = 22.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08\text{ mm}$				
0.068	8.0 \times 24.0 \times 26.0	2.4	34683	550
0.075	8.5 \times 24.5 \times 26.0	2.5	34753	500
0.082	9.0 \times 25.0 \times 26.0	2.6	34823	450
0.091			34913	
0.1	9.5 \times 25.5 \times 26.0	2.8	34104	450
0.11	10.0 \times 26.0 \times 26.0	3.0	34114	400
0.12	10.5 \times 26.5 \times 26.0	3.2	34124	350
0.13	11.0 \times 27.0 \times 26.0	3.5	34134	350
Pitch = 27.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08\text{ mm}$				
0.15	10.0 \times 26.0 \times 31.0	5.0	34154	500
0.16	10.5 \times 26.5 \times 31.0	5.0	34164	450
0.18	11.0 \times 27.0 \times 31.0	5.5	34184	400
0.2	11.5 \times 27.5 \times 31.0	5.5	34204	400
0.22	12.0 \times 28.0 \times 31.0	6.0	34224	350
0.24	12.5 \times 28.5 \times 31.0	6.5	34244	350
0.27	13.5 \times 29.5 \times 31.0	7.0	34274	300
0.3	14.0 \times 30.0 \times 31.0	7.0	34304	300
0.33	15.0 \times 31.0 \times 31.0	8.0	34334	250



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

SPECIFIC REFERENCE DATA (1400 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: C ≤ 0.016 μF	≤ 5 × 10 ⁻⁴	≤ 10 × 10 ⁻⁴
0.016 μF < C ≤ 0.039 μF	≤ 5 × 10 ⁻⁴	≤ 12 × 10 ⁻⁴
0.039 μF < C ≤ 0.1 μF	≤ 5 × 10 ⁻⁴	≤ 15 × 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R at 1400 V (DC) Pitch = 15 mm and 7.5 mm (bent back) for C ≤ 0.0056 μF Pitch = 15 mm and 7.5 mm (bent back) for 0.0056 μF < C ≤ 0.016 μF P = 22.5 mm P = 27.5 mm	8000 V/μs 15000 V/μs 4000 V/μs 2100 V/μs	
R between leads, for C ≤ 1 μF at 500 V; 1 minute	>100000 MΩ	
R between leads and case; 500 V; 1 minute	>30000 MΩ	
Ionization (AC) voltage (typical value) at 20 pC peak discharge	>440 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	2250 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

U_{Rdc} = 1400 V; U_{Rac} = 425 V; U_{p-p} = 1200 V (standard)

C (μF)	DIMENSIONS w _{max} × h (h') _{max} × l _{max} (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			l _t = 5.0 ±1.0 mm	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = ±5%	SPQ	C-tol = ±5%		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
Pitch = 15.0 ±0.4 mm; d_t = 0.80 ±0.08 mm					pitch = 7.5 mm (bent back)	pitch = 15.0 mm	
0.0022	6.0 × 15.0 (16.5) × 18.0	1.3	41222	2000	43222	800	1000
0.0024			41242		43242		
0.0027			41272		43272		
0.003			41302		43302		
0.0033			41332		43332		
0.0036			41362		43362		
0.0039	6.5 × 15.5 (17.0) × 18.0	1.4	41392	1500	43392	750	900
0.0043			41432		43432		
0.0047	7.0 × 16.0 (17.5) × 18.0	1.5	41472	1500	43472	700	800
0.0051			41512		43512		
0.0056			41562		43562		
0.0062	7.5 × 16.5 (18.0) × 18.0	1.6	41622	1250	43622	650	800
0.0068			41682		43682		
0.0075	8.0 × 17.0 (18.5) × 18.0	1.7	41752	1250	43752	600	750
0.0082	8.5 × 17.5 (19.0) × 18.0	1.8	41822	1000	43822	600	700
0.0091			41912		43912		
0.01	9.0 × 18.0 (19.5) × 18.0	1.9	41103	900	43103	550	600
0.011	9.5 × 18.5 (20.0) × 18.0	2.0	41113	900	43113	500	600
0.012	10.0 × 19.0 (20.5) × 18.0	2.1	41123	800	43123	500	600
0.013			41133		43133		
0.015	11.0 × 20.0 (21.5) × 18.0	2.3	41153	800	43153	450	500
0.016			41163		43163		
Pitch = 22.5 ±0.4 mm; d_t = 0.80 ±0.08 mm					pitch = 7.5 mm (bent back)	pitch = 22.5 mm	
0.018	8.0 × 21.0 × 26.0	2.4	41183	550			
0.02	8.5 × 21.5 × 26.0	2.5	41203	500			
0.022	9.0 × 22.0 × 26.0	2.6	41223	450			
0.024			41243				
0.027	9.5 × 22.5 × 26.0	2.8	41273	450			
0.03	10.0 × 23.0 × 26.0	3.0	41303	400			
0.033	10.5 × 23.5 × 26.0	3.2	41333	350			



C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING			
			LOOSE IN BOX		REEL	
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)	pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$	
last 5 digits of catalog number	last 5 digits of catalog number	SPQ	SPQ			
0.036	11.0 × 24.0 × 26.0	3.5	41363	350		
0.039	11.5 × 24.5 × 26.0	3.8	41393	350		
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)	pitch = 27.5 mm
0.043	10.5 × 23.5 × 31.0	5.0	41433	450		
0.047			41473			
0.051	11.0 × 24.0 × 31.0	5.5	41513	400		
0.056	11.5 × 24.5 × 31.0	5.5	41563	400		
0.062	12.0 × 25.0 × 31.0	6.0	41623	350		
0.068	12.5 × 25.5 × 31.0	6.5	41683	350		
0.075	13.5 × 26.5 × 31.0	7.0	41753	300		
0.082	14.0 × 27.0 × 31.0	7.0	41823	300		
0.091	14.5 × 27.5 × 31.0	7.5	41913	250		
0.1	15.5 × 28.5 × 31.0	8.5	41104	250		

$U_{Rdc} = 1400$ V; $U_{Rac} = 425$ V; $U_{p-p} = 1200$ V (lock lead)

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 + 1.0/-0.5$ mm	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.0022	6.0 × 18.0 × 18.0	1.3	44222	2000
0.0024			44242	
0.0027			44272	
0.003			44302	
0.0033			44332	
0.0036			44362	
0.0039	6.5 × 18.5 × 18.0	1.4	44392	1500
0.0043			44432	
0.0047	7.0 × 19.0 × 18.0	1.5	44472	1500
0.0051			44512	
0.0056			44562	
0.0062	7.5 × 19.5 × 18.0	1.6	44622	1250
0.0068			44682	
0.0075	8.0 × 20.0 × 18.0	1.7	44752	1250
0.0082	8.5 × 20.5 × 18.0	1.8	44822	1000
0.0091			44912	
0.01	9.0 × 21.0 × 18.0	1.9	44103	900
0.011	9.5 × 21.5 × 18.0	2.0	44113	900
0.012	10.0 × 22.0 × 18.0	2.1	44123	800
0.013			44133	
0.015	11.0 × 23.0 × 18.0	2.3	44153	800
0.016			44163	
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.018	8.0 × 24.0 × 26.0	2.4	44183	550
0.02	8.5 × 24.5 × 26.0	2.5	44203	500
0.022	9.0 × 25.0 × 26.0	2.6	44223	450
0.024			44243	



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 \pm 1.0 / -0.5$ mm	
			C-tol = $\pm 5\%$ last 5 digits of catalog number	SPQ
0.027	9.5 × 25.5 × 26.0	2.8	44273	450
0.03	10.0 × 26.0 × 26.0	3.0	44303	400
0.033	10.5 × 26.5 × 26.0	3.2	44333	350
0.036	11.0 × 27.0 × 26.0	3.5	44363	350
0.039	11.5 × 27.5 × 26.0	3.8	44393	350
Pitch = 27.5 \pm0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.043	10.5 × 26.5 × 31.0	5.0	44433	450
0.047			44473	
0.051	11.0 × 27.0 × 31.0	5.5	44513	400
0.056	11.5 × 27.5 × 31.0	5.5	44563	400
0.062	12.0 × 28.0 × 31.0	6.0	44623	350
0.068	12.5 × 28.5 × 31.0	6.5	44683	350
0.075	13.5 × 29.5 × 31.0	7.0	44753	300
0.082	14.0 × 30.0 × 31.0	7.0	44823	300
0.091	14.5 × 30.5 × 31.0	7.5	44913	250
0.1	15.5 × 31.5 × 31.0	8.5	44104	250

SPECIFIC REFERENCE DATA (1600 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle: $C \leq 0.01 \mu$ F	at 10 kHz $\leq 5 \times 10^{-4}$	at 100 kHz $\leq 10 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) _R at 1600 V (DC) Pitch = 15 mm and 7.5 mm (bent back) for $C \leq 0.0036 \mu$ F Pitch = 15 mm and 7.5 mm (bent back) for 0.0036μ F < $C \leq 0.01 \mu$ F	11000 V/ μ s 20000 V/ μ s	
R between leads, for $C \leq 1 \mu$ F at 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>30000 M Ω	
Ionization (AC) voltage (typical value) at 20 pC peak discharge	>440 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	2400 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

$U_{Rdc} = 1600$ V; $U_{Rac} = 460$ V; $U_{p-p} = 1300$ V (standard)

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING			
			LOOSE IN BOX		REEL	
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)	pitch = 15 mm
			C-tol = $\pm 5\%$ last 5 digits of catalog number	SPQ	C-tol = $\pm 5\%$ last 5 digits of catalog number	SPQ
Pitch = 15.0 \pm0.4 mm; $d_t = 0.80 \pm 0.08$ mm			pitch = 7.5 mm (bent back)		pitch = 15.0 mm	
0.0016	6.0 × 15.0 (16.5) × 18.0	1.3	51162	2000	53162	1000
0.0018			51182		53182	
0.002			51202		53202	
0.0022			51222		53222	
0.0024	6.5 × 15.5 (17.0) × 18.0	1.4	51242	1500	53242	900
0.0027			51272		53272	
0.003	7.0 × 16.0 (17.5) × 18.0	1.5	51302	1500	53302	800
0.0033			51332		53332	
0.0036			51362		53362	
0.0039	7.5 × 16.5 (18.0) × 18.0	1.6	51392	1250	53392	800
0.0043			51432		53432	

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0$ mm	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
0.0047	8.0 × 17.0 (18.5) × 18.0	1.7	51472	1250	53472	600	750
0.0051 0.0056	8.5 × 17.5 (19.0) × 18.0	1.8	51512 51562	1000	53512 53562	600	700
0.0062	9.0 × 18.0 (19.5) × 18.0	1.9	51622	900	53622	550	600
0.0068 0.0075	9.5 × 18.5 (20.0) × 18.0	2.0	51682 51752	900	53682 53752	500	600
0.0082	10.0 × 19.0 (20.5) × 18.0	2.1	51822	800	53822	500	600
0.0091	10.5 × 19.5 (21.0) × 18.0	2.2	51912	800	53912	450	500
0.01	11.0 × 20.0 (21.5) × 18.0	2.3	51103	800	53103	450	500
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 22.5 mm
0.011	8.0 × 21.0 × 26.0	2.4	51113	550			
0.012 0.013	8.5 × 21.5 × 26.0	2.5	51123 51133	500			
0.015	9.0 × 22.0 × 26.0	2.6	51153	450			
0.016	9.5 × 22.5 × 26.0	2.8	51163	450			
0.018 0.02	10.0 × 23.0 × 26.0	3.0	51183 51203	400			
0.022	10.5 × 23.5 × 26.0	3.2	51223	350			
0.024	11.0 × 24.0 × 26.0	3.5	51243	350			
0.027	11.5 × 24.5 × 26.0	3.8	51273	350			
0.03	12.5 × 25.5 × 26.0	4.6	51303	300			
0.033	13.0 × 26.0 × 26.0	5.0	51333	300			
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)		pitch = 27.5 mm
0.036	11.5 × 24.5 × 31.0	5.5	51363	400			
0.039	12.0 × 25.0 × 31.0	6.0	51393	350			
0.043	12.5 × 25.5 × 31.0	6.5	51433	350			
0.047	13.0 × 26.0 × 31.0	6.5	51473	300			
0.051	13.5 × 26.5 × 31.0	7.0	51513	300			
0.056	14.5 × 27.5 × 31.0	7.5	51563	250			

$U_{Rdc} = 1600$ V; $U_{Rac} = 460$ V; $U_{p-p} = 1300$ V (lock lead)

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5$ mm	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.0016 0.0018 0.002 0.0022	6.0 × 18.0 × 18.0	1.3	54162 54182 54202 54222	2000
0.0024 0.0027	6.5 × 18.5 × 18.0	1.4	54242 54272	1500
0.003 0.0033 0.0036	7.0 × 19.0 × 18.0	1.5	54302 54332 54362	1500
0.0039 0.0043	7.5 × 19.5 × 18.0	1.6	54392 54432	1250



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

Vishay BCcomponents

C (μ F)	DIMENSIONS $w_{max} \times h (h')_{max} \times l_{max}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5$ mm	
			C-tol = $\pm 5\%$	SPQ
last 5 digits of catalog number				
0.0047	8.0 × 20.0 × 18.0	1.7	54472	1250
0.0051 0.0056	8.5 × 20.5 × 18.0	1.8	54512 54562	1000
0.0062	9.0 × 21.0 × 18.0	1.9	54622	900
0.0068 0.0075	9.5 × 21.5 × 18.0	2.0	54682 54752	900
0.0082	10.0 × 22.0 × 18.0	2.1	54822	800
0.0091	10.5 × 22.5 × 18.0	2.2	54912	800
0.01	11.0 × 23.0 × 18.0	2.3	54103	800
Pitch = 22.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.011	8.0 × 24.0 × 26.0	2.4	54113	550
0.012 0.013	8.5 × 24.5 × 26.0	2.5	54123 54133	500
0.015	9.0 × 25.0 × 26.0	2.6	54153	450
0.016	9.5 × 25.5 × 26.0	2.8	54163	450
0.018 0.02	10.0 × 26.0 × 26.0	3.0	54183 54203	400
0.022	10.5 × 26.5 × 26.0	3.2	54223	350
0.024	11.0 × 27.0 × 26.0	3.5	54243	350
0.027	11.5 × 27.5 × 26.0	3.8	54273	350
0.03	12.5 × 28.5 × 26.0	4.6	54303	300
0.033	13.0 × 29.0 × 26.0	5.0	54333	300
Pitch = 27.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.036	11.5 × 27.5 × 31.0	5.5	54363	400
0.039	12.0 × 28.0 × 31.0	6.0	54393	350
0.043	12.5 × 28.5 × 31.0	6.5	54433	350
0.047	13.0 × 29.0 × 31.0	6.5	54473	300
0.051	13.5 × 29.5 × 31.0	7.0	54513	300
0.056	14.5 × 30.5 × 31.0	7.5	54563	250

SPECIFIC REFERENCE DATA (2000 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: C ≤ 0.0051 μ F 0.0051 μ F < C ≤ 0.033 μ F	≤ 5 × 10 ⁻⁴ ≤ 5 × 10 ⁻⁴	≤ 10 × 10 ⁻⁴ ≤ 10 × 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R : Pitch = 15 mm and 7.5 mm (bent back) P = 22.5 mm P = 27.5 mm	20000 V/ μ s 10000 V/ μ s 5500 V/ μ s	
R between leads, for C ≤ 1 μ F at 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>30000 M Ω	
Ionization (AC) voltage (typical value) at 20 pC peak discharge	>440 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	3000 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

MMKP 483

Vishay BCcomponents

AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type



$U_{Rdc} = 2000\text{ V}$; $U_{Rac} = 530\text{ V}$; $U_{p-p} = 1500\text{ V}$ (standard)

C (μF)	DIMENSIONS $w_{\text{max}} \times h (h')_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 5.0 \pm 1.0\text{ mm}$	all leads	pitch = 7.5 mm (bent back)		pitch = 15 mm
			C-tol = $\pm 5\%$	SPQ	C-tol = $\pm 5\%$		SPQ
last 5 digits of catalog number	last 5 digits of catalog number	SPQ					
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)	pitch = 15.0 mm	
0.001	6.0 \times 15.0 (16.5) \times 18.0	1.3	61102	2000	63102	1000	
0.0011	6.5 \times 15.5 (17.0) \times 18.0	1.4	61112	1500	63112	900	
0.0012			61122		63122		
0.0013			61132		63132		
0.0015	7.0 \times 16.0 (17.5) \times 18.0	1.5	61152	1500	63152	800	
0.0016			61162		63162		
0.0018	7.5 \times 16.5 (18.0) \times 18.0	1.6	61182	1250	63182	800	
0.002			61202		63202		
0.0022	8.0 \times 17.0 (18.5) \times 18.0	1.7	61222	1250	63222	750	
0.0024			61242		63242		
0.0027	8.5 \times 17.5 (19.0) \times 18.0	1.8	61272	1000	63272	700	
0.003	9.0 \times 18.0 (19.5) \times 18.0	1.9	61302	900	63302	600	
0.0033	9.5 \times 18.5 (20.0) \times 18.0	2.0	61332	900	63332	600	
0.0036			61362		63362		
0.0039	10.0 \times 19.0 (20.5) \times 18.0	2.1	61392	800	63392	600	
0.0043	10.5 \times 19.5 (21.0) \times 18.0	2.2	61432	800	63432	500	
0.0047			61472		63472		
0.0051	11.0 \times 20.0 (21.5) \times 18.0	2.3	61512	800	63512	500	
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)	pitch = 22.5 mm	
0.0056	8.5 \times 21.5 \times 26.0	2.5	61562	500			
0.0062			61622				
0.0068	9.0 \times 22.0 \times 26.0	2.6	61682	450			
0.0075			61752				
0.0082	9.5 \times 22.5 \times 26.0	2.8	61822	450			
0.0091	10.0 \times 23.0 \times 26.0	3.0	61912	400			
0.01	10.5 \times 23.5 \times 26.0	3.2	61103	350			
0.011	11.0 \times 24.0 \times 26.0	3.5	61113	350			
0.012	11.5 \times 24.5 \times 26.0	3.8	61123	350			
0.013			61133				
0.015	12.5 \times 25.5 \times 26.0	4.6	61153	300			
0.016	13.0 \times 26.0 \times 26.0	5.0	61163	300			
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm					pitch = 7.5 mm (bent back)	pitch = 27.5 mm	
0.018	11.5 \times 24.5 \times 31.0	5.5	61183	400			
0.02	12.5 \times 25.5 \times 31.0	6.5	61203	350			
0.022	13.0 \times 26.0 \times 31.0	6.5	61223	300			
0.024	13.5 \times 26.5 \times 31.0	7.0	61243	300			
0.027	14.0 \times 27.0 \times 31.0	7.0	61273	300			
0.03	15.0 \times 28.0 \times 31.0	8.0	61303	250			
0.033	15.5 \times 28.5 \times 31.0	8.5	61333	250			



AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

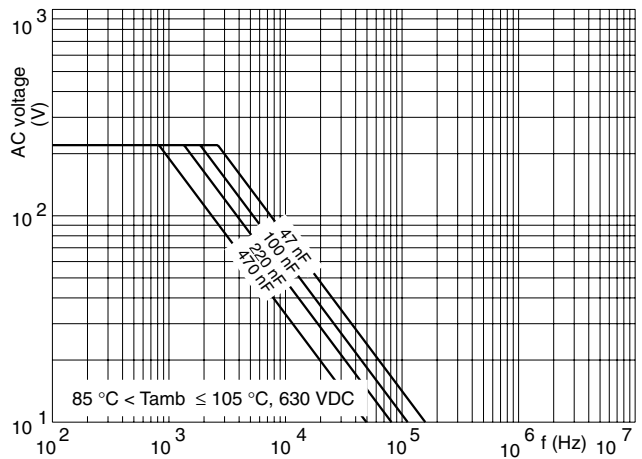
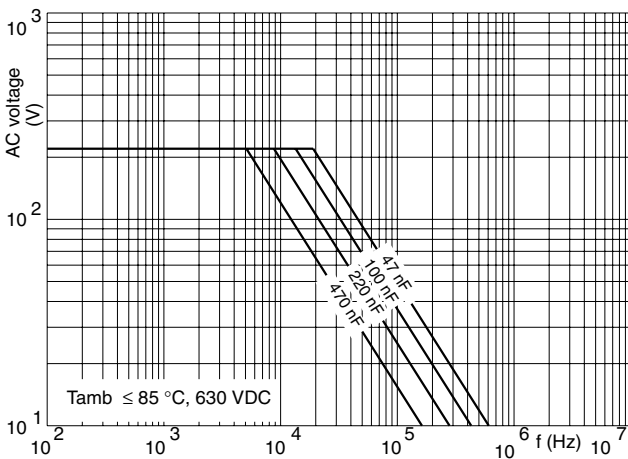
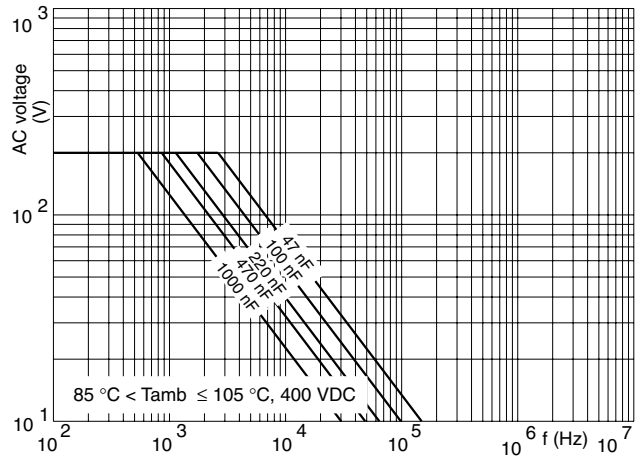
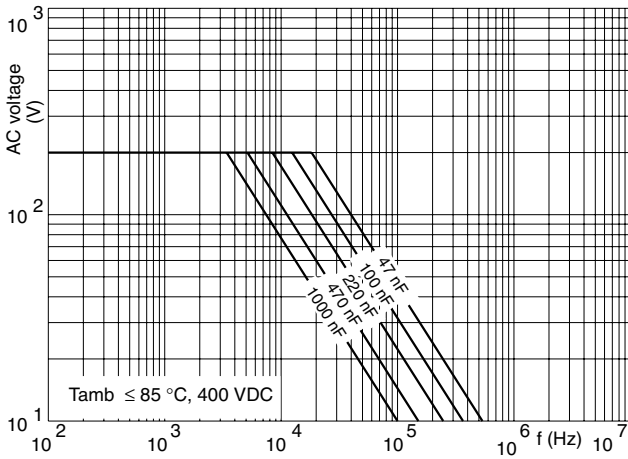
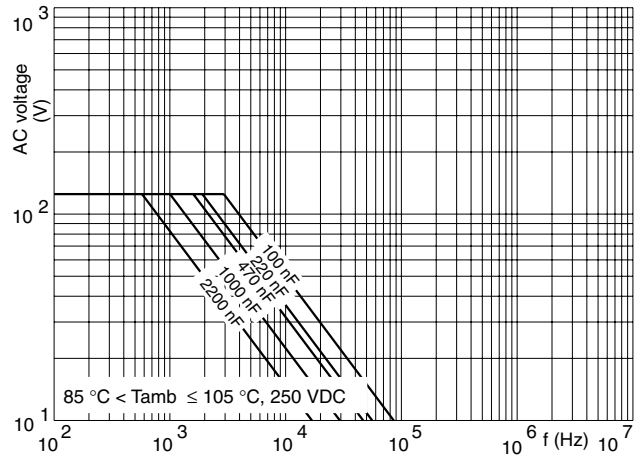
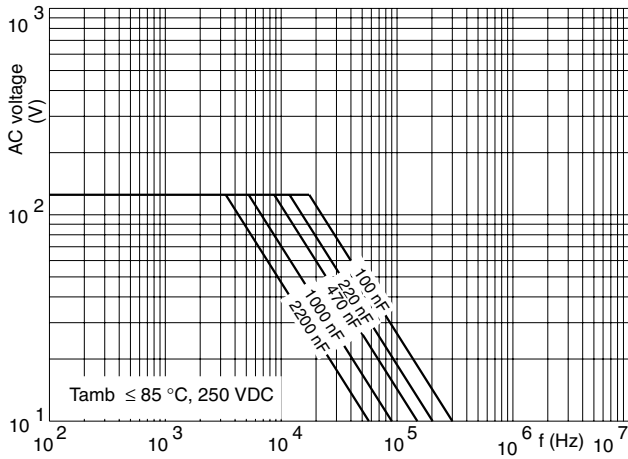
Vishay BCcomponents

$U_{Rdc} = 2000\text{ V}$; $U_{Rac} = 530\text{ V}$; $U_{p-p} = 1500\text{ V}$ (lock lead)

C (μF)	DIMENSIONS $w_{\text{max}} \times h$ (h) $_{\text{max}} \times l_{\text{max}}$ (mm)	MASS (g)	CATALOG NUMBER 2222 483 AND PACKAGING	
			LOOSE IN BOX	
			$l_t = 4.0 +1.0/-0.5\text{ mm}$	
			C-tol = $\pm 5\%$ last 5 digits of catalog number	SPQ
Pitch = 15.0 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.001	6.0 \times 18.0 \times 18.0	1.3	64102	2000
0.0011 0.0012 0.0013	6.5 \times 18.5 \times 18.0	1.4	64112 64122 64132	1500
0.0015 0.0016	7.0 \times 19.0 \times 18.0	1.5	64152 64162	1500
0.0018 0.002	7.5 \times 19.5 \times 18.0	1.6	64182 64202	1250
0.0022 0.0024	8.0 \times 20.0 \times 18.0	1.7	64222 64242	1250
0.0027	8.5 \times 20.5 \times 18.0	1.8	64272	1000
0.003	9.0 \times 21.0 \times 18.0	1.9	64302	900
0.0033 0.0036	9.5 \times 21.5 \times 18.0	2.0	64332 64362	900
0.0039	10.0 \times 22.0 \times 18.0	2.1	64392	800
0.0043 0.0047	10.5 \times 22.5 \times 18.0	2.2	64432 64472	800
0.0051	11.0 \times 23.0 \times 18.0	2.3	64512	800
Pitch = 22.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.0056 0.0062	8.5 \times 24.5 \times 26.0	2.5	64562 64622	500
0.0068 0.0075	9.0 \times 25.0 \times 26.0	2.6	64682 64752	450
0.0082	9.5 \times 25.5 \times 26.0	2.8	64822	450
0.0091	10.0 \times 26.0 \times 26.0	3.0	64912	400
0.01	10.5 \times 26.5 \times 26.0	3.2	64103	350
0.011	11.0 \times 27.0 \times 26.0	3.5	64113	350
0.012 0.013	11.5 \times 27.5 \times 26.0	3.8	64123 64133	350
0.015	12.5 \times 28.5 \times 26.0	4.6	64153	300
0.016	13.0 \times 29.0 \times 26.0	5.0	64163	300
Pitch = 27.5 ± 0.4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.018	11.5 \times 27.5 \times 31.0	5.5	64183	400
0.02	12.5 \times 28.5 \times 31.0	6.5	64203	350
0.022	13.0 \times 29.0 \times 31.0	6.5	64223	300
0.024	13.5 \times 29.5 \times 31.0	7.0	64243	300
0.027	14.0 \times 30.0 \times 31.0	7.0	64273	300
0.03	15.0 \times 31.0 \times 31.0	8.0	64303	250
0.033	15.5 \times 31.5 \times 31.0	8.5	64333	250

Vishay BCcomponents AC and Pulse Double Metallized Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

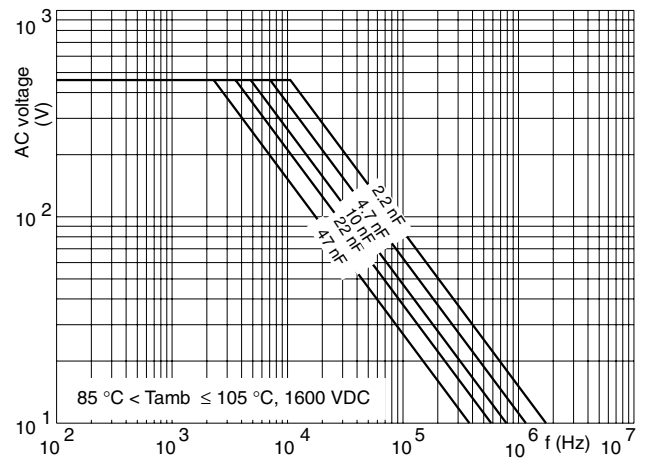
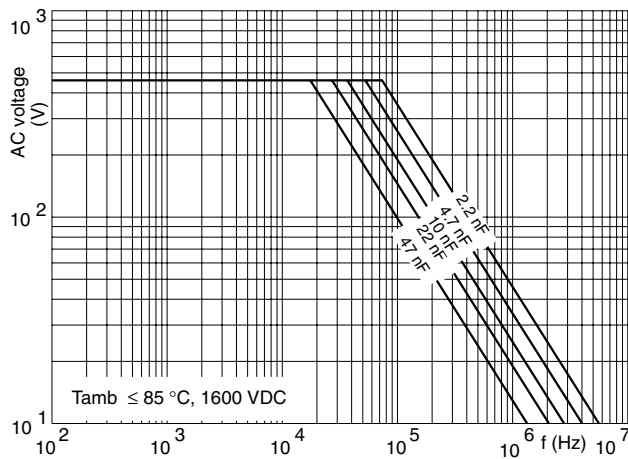
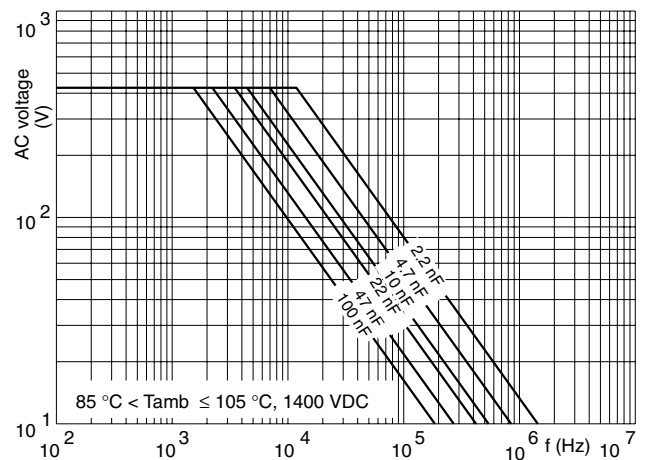
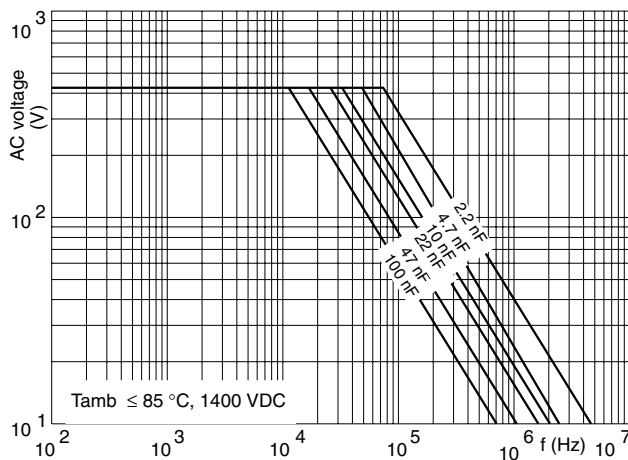
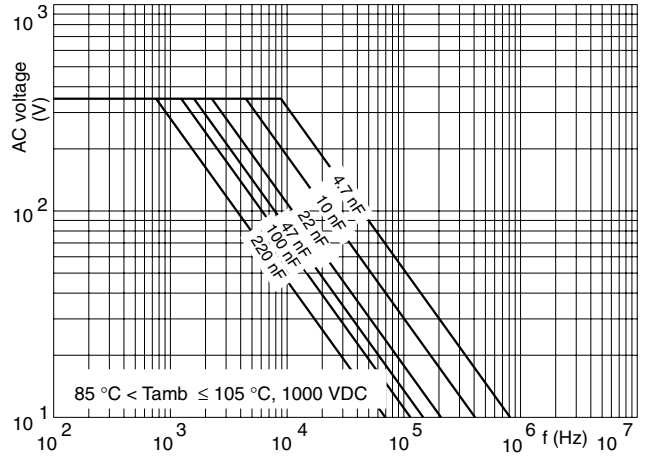
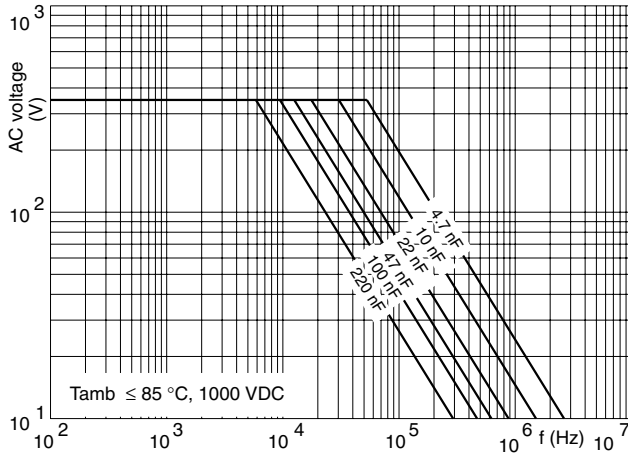
MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY



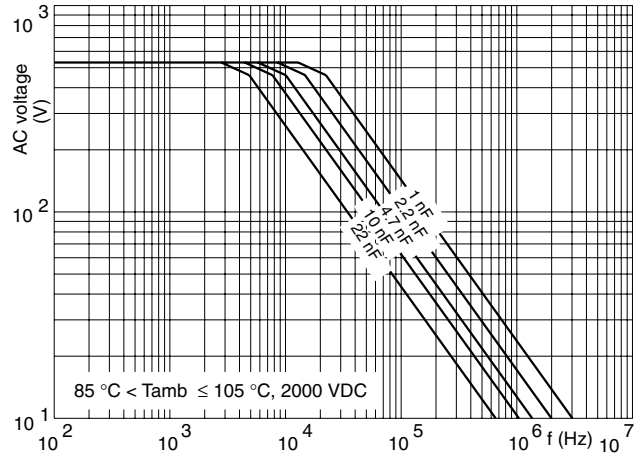
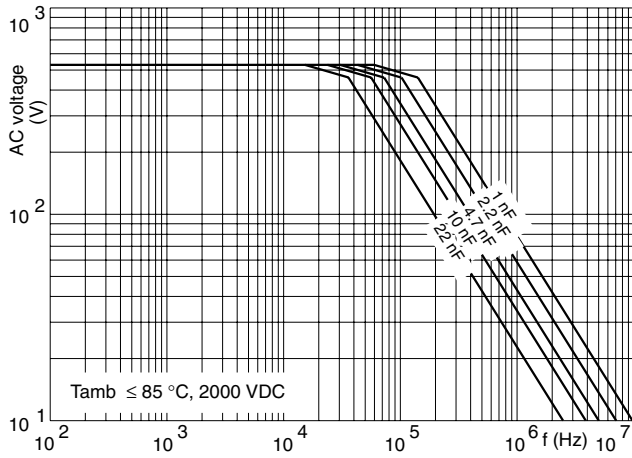


AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type

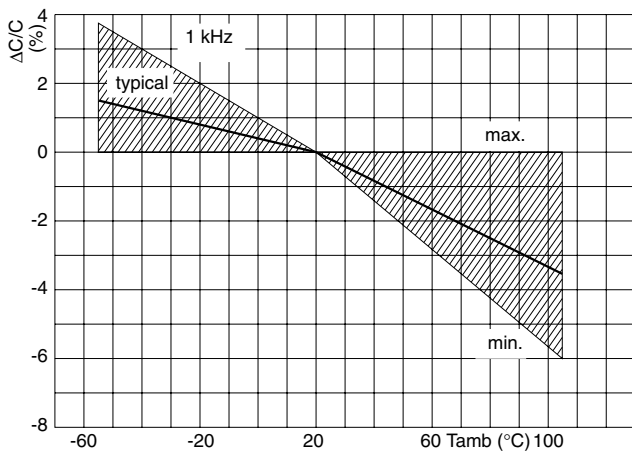
Vishay BCcomponents



Vishay BCcomponents AC and Pulse Double Metallized
Polypropylene Film Capacitors
MMKP Radial Epoxy Lacquered Type



CAPACITANCE



IMPEDANCE

