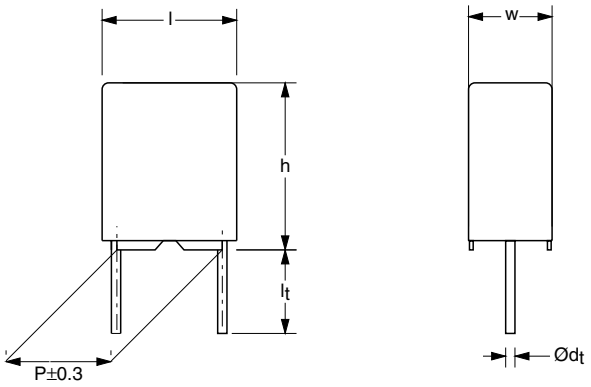
AC and Pulse Metallized Polypropylene Film Capacitors MKP Radial Potted Type



Dimensions in mm

APPLICATIONS

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

MARKING

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

DIELECTRIC

Polypropylene film

ELECTRODES

Metallized film

ENCAPSULATION

Flame retardant plastic case and epoxy resin (UL-class 94 V-0)

CONSTRUCTION

Wound mono construction

LEADS

Tinned wire

CAPACITANCE RANGE (E24 SERIES)

0.0015 to 0.1 µF

FEATURES

5 mm pitch. Supplied loose in box and ammopack

Lead (Pb)-free product

RoHS-compliant product

Pb-free

e3

RoHS COMPLIANT

CAPACITANCE TOLERANCE

± 10 %; ± 5 %

RATED (DC) VOLTAGE

100 V; 160 V; 250 V; 400 V; 630 V

RATED (AC) VOLTAGE

63 V; 100 V; 160 V; 200 V; 200 V

RATED PEAK-TO-PEAK VOLTAGE

180 V; 280 V; 450 V; 560 V; 560 V

CLIMATIC CATEGORY

55/085/56

RATED TEMPERATURE

85 °C

MAXIMUM APPLICATION TEMPERATURE

85 °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 see *"Type detail specification HQN-384-17/103"*

COMPOSITION OF CATALOG NUMBER

TYPE AND PITCHES	
380	5.0 mm

MULTIPLIER (nF)	
0.1	2
1	3
10	4

CAPACITANCE (numerically)

Example:

104 = 10 x 10 = 100 nF

2222	380	XX	XX	X
BFC2*	380	XX	XX	X

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

TYPE	PACKAGING	LEAD CONFIGURATION	PREFERRED TYPES					
			C-TOL	100 V	160 V	250 V	400 V	630 V
380	ammopack	H = 18.5 mm; P_0 = 12.7 mm	± 10 %	25	35	45	55	65
			ON REQUEST					
380	ammopack	H = 18.5 mm; P_0 = 12.7 mm	± 5 %	26	36	46	56	66
	loose in box	lead length 4.0 + 1.0/– 0.5 mm	± 10 %	21	31	41	51	61
			± 5 %	22	32	42	52	62

SPECIFIC REFERENCE DATA (100 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.018 µF ≤ C ≤ 0.027 µF	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
0.027 µF < C ≤ 0.075 µF	$\leq 5 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
0.075 µF < C ≤ 0.1 µF	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 100 V (DC)	80 V/µs	
R between leads for C ≤ 1.0 µF at 100 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 100 V; 1 minute	> 100000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	160 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	

U_{Rdc} = 100 V; U_{Rac} = 63 V; U_{p-p} = 180 V

C (µF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 380 ..... AND PACKAGING		
			AMMOPACK		LOOSE IN BOX
			H = 18.5 mm		l_t = 4.0 + 1.0/– 0.5 mm
			C-tol = ± 10 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm					
0.018	3.5 × 8.0 × 7.2	0.35	25183	1500	2000
0.02			25203		
0.022			25223		
0.024			25243		
0.027			25273		
0.03			25303		
0.033			25333		
0.036	4.5 × 9.0 × 7.2	0.45	25363	1000	2000
0.039			25393		
0.043			25433		
0.047			25473		
0.051	6.0 × 11.0 × 7.2	0.60	25513	750	2000
0.056			25563		
0.062			25623		
0.068			25683		
0.075			25753		
0.082			25823		
0.091			25913		
0.1			25104		

SPECIFIC REFERENCE DATA (160 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.013 µF ≤ C ≤ 0.027 µF	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
0.027 µF < C ≤ 0.068 µF	$\leq 5 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 160 V (DC)	80 V/µs	
R between leads for C ≤ 1.0 µF at 100 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 100 V; 1 minute	> 100000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	256 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	

U_{Rdc} = 160 V; U_{Rac} = 100 V; U_{p-p} = 280 V

C (µF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 380 ..... AND PACKAGING		
			AMMOPACK		LOOSE IN BOX
			H = 18.5 mm		l_t = 4.0 + 1.0/– 0.5 mm
			C-tol = ± 10 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm					
0.013	3.5 × 8.0 × 7.2	0.35	35133	1500	2000
0.015			35153		
0.016			35163		
0.018			35183		
0.02			35203		
0.022			35223		
0.024	4.5 × 9.0 × 7.2	0.45	35243	1000	2000
0.027			35273		
0.03			35303		
0.033			35333		
0.036	6.0 × 11.0 × 7.2	0.60	35363	750	2000
0.039			35393		
0.043			35433		
0.047			35473		
0.051			35513		
0.056			35563		
0.062			35623		
0.068			35683		

SPECIFIC REFERENCE DATA (250 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.0091 µF ≤ C ≤ 0.027 µF	≤ 5×10^{-4}	≤ 15×10^{-4}
0.027 µF < C ≤ 0.043 µF	≤ 5×10^{-4}	≤ 20×10^{-4}
Rated voltage pulse slope $(dU/dt)_R$ at 250 V (DC)	90 V/µs	
R between leads for C ≤ 1.0 µF at 100 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 100 V; 1 minute	> 100000 MΩ	
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 V; U_{Rac} = 160 V; U_{p-p} = 450 V

C (µF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 380 ..... AND PACKAGING		
			AMMOPACK		LOOSE IN BOX
			H = 18.5 mm		l_t = 4.0 + 1.0/– 0.5 mm
			C-tol = ± 10 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm					
0.0091	3.5 × 8.0 × 7.2	0.35	45912	1500	2000
0.01			45103		
0.011			45113		
0.012			45123		
0.013			45133		
0.015			45153		
0.016	4.5 × 9.0 × 7.2	0.45	45163	1000	2000
0.018			45183		
0.02			45203		
0.022			45223		
0.024			45243		
0.027	6.0 × 11.0 × 7.2	0.60	45273	750	2000
0.03			45303		
0.033			45333		
0.036			45363		
0.039			45393		
0.043			45433		

SPECIFIC REFERENCE DATA (400 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.0043 µF ≤ C ≤ 0.0091 µF	$\leq 5 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
0.0091 µF < C ≤ 0.02 µF	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 400 V (DC)	100 V/µs	
R between leads for C ≤ 1.0 µF at 100 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 100 V; 1 minute	> 100000 MΩ	
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

C (µF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 380 ..... AND PACKAGING		
			AMMOPACK		LOOSE IN BOX
			H = 18.5 mm		l_t = 4.0 + 1.0/– 0.5 mm
			C-tol = ± 10 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm					
0.0043	3.5 × 8.0 × 7.2	0.35	55432	1500	2000
0.0047			55472		
0.0051			55512		
0.0056			55562		
0.0062			55622		
0.0068			55682		
0.0075			55752		
0.0082			55822		
0.0091	4.5 × 9.0 × 7.2	0.45	55912	1000	2000
0.01			55103		
0.011			55113		
0.012			55123		
0.013	6.0 × 11.0 × 7.2	0.60	55133	750	2000
0.015			55153		
0.016			55163		
0.018			55183		
0.02			55203		

SPECIFIC REFERENCE DATA (630 VDC)

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.0015 µF ≤ C ≤ 0.0091 µF	≤ 5×10^{-4}	≤ 10×10^{-4}
0.0091 µF < C ≤ 0.01 µF	≤ 5×10^{-4}	≤ 15×10^{-4}
Rated voltage pulse slope $(dU/dt)_R$ at 630 V (DC)	120 V/µs	
R between leads for C ≤ 1.0 µF at 500 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 500 V; 1 minute	> 100000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	880 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	

U_{Rdc} = 630 V; U_{Rac} = 200 V; U_{p-p} = 560 V

C (µF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 380 ..... AND PACKAGING		
			AMMOPACK		LOOSE IN BOX
			H = 18.5 mm		l_t = 4.0 + 1.0/– 0.5 mm
			C-tol = ± 10 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 5.0 ± 0.3 mm; d_t = 0.50 ± 0.05 mm					
0.0015	3.5 × 8.0 × 7.2	0.35	65152	1500	2000
0.0016			65162		
0.0018			65182		
0.002			65202		
0.0022			65222		
0.0024			65242		
0.0027			65272		
0.003			65302		
0.0033			65332		
0.0036			65362		
0.0039			65392		
0.0043	4.5 × 9.0 × 7.2	0.45	65432	1000	2000
0.0047			65472		
0.0051			65512		
0.0056			65562		
0.0062	6.0 × 11.0 × 7.2	0.60	65622	750	2000
0.0068			65682		
0.0075			65752		
0.0082			65822		
0.0091			65912		
0.01			65103		

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