

DATA SHEET

MKP/MKP 378
AC and pulse
metallized polypropylene film
capacitors

Maintenance type
Supersedes data of 11th October 2002
File under BCcomponents, BC05

2003 Feb 12

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

MKP/MKP RADIAL POTTED TYPE

PITCH 15/22.5/27.5 mm

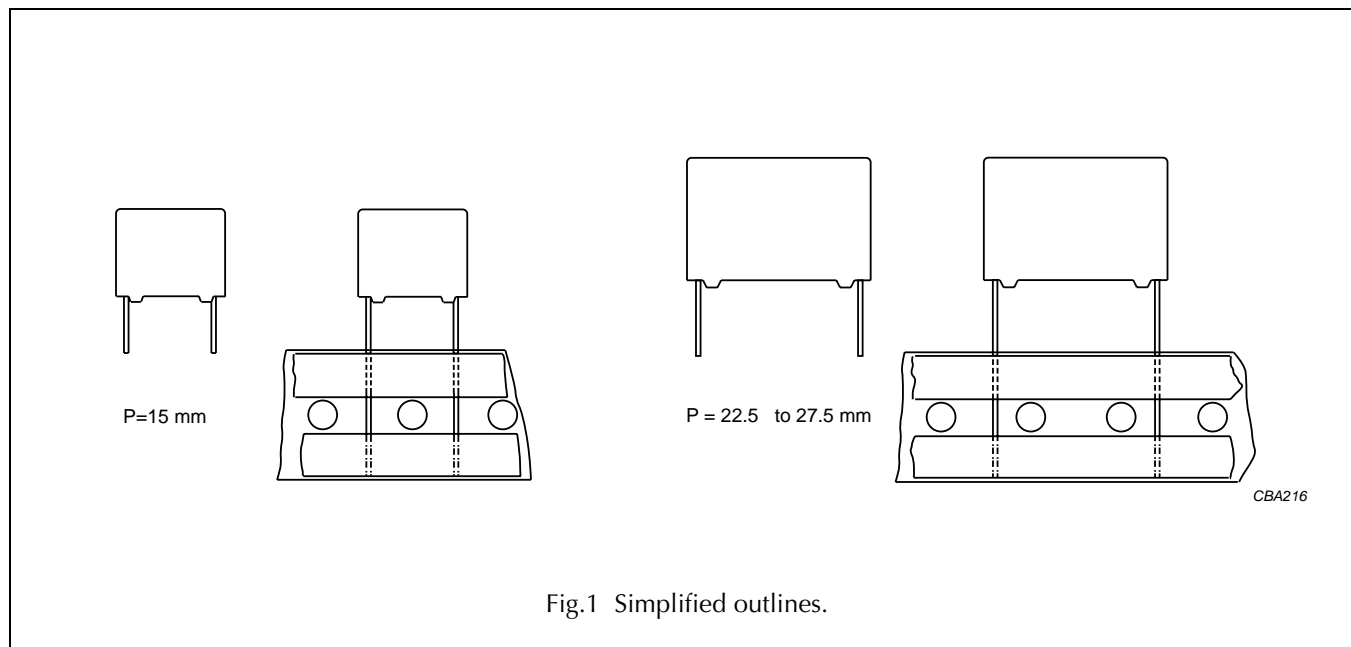


Fig.1 Simplified outlines.

FEATURES

- 15 to 27.5 mm lead pitch
- Low contact resistance
- Low loss dielectric
- Small dimensions for high density packaging
- Supplied loose in box and taped on reel.

APPLICATIONS

- Where steep pulses occur e.g. SMPS (switch mode power supplies)
- Motor control circuits
- It is not advised to use these products as resonance capacitors in fly-back applications.

DETAIL SPECIFICATION

For more detailed data and test requirements see "Type detail specification HQN-384-17/102".

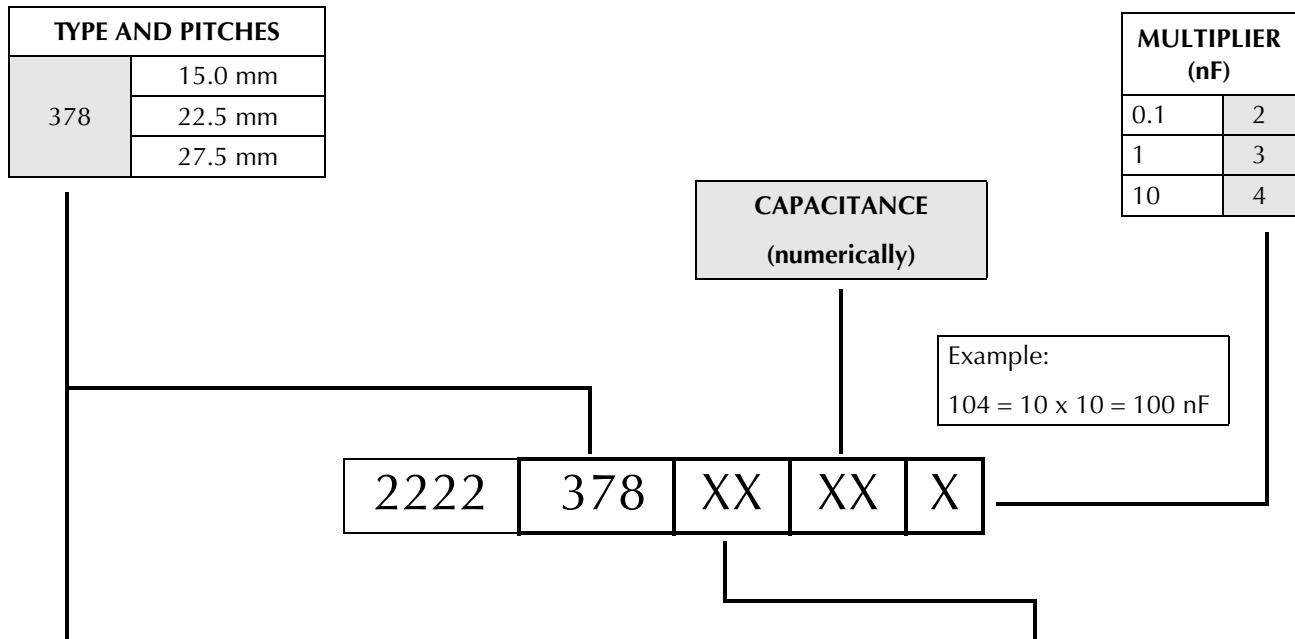
QUICK REFERENCE DATA

DESCRIPTION	VALUE
Capacitance range (E24 series)	0.002 to 0.68 μ F
Capacitance tolerance	\pm 5%
Rated (DC) voltage	630 V; 1 000 V; 1 600 V; 2 000 V; 2 500 V
Rated (AC) voltage	300 V; 400 V; 500 V; 600 V; 675 V
Rated peak-to-peak voltage	850 V; 1 130 V; 1 400 V; 1 700 V; 1 900 V
Climatic category	55/085/56
Rated temperature (DC)	85 °C
Rated temperature (AC)	70 °C
Maximum application temperature	85 °C
Reference specification	IEC 60384-17
Performance grade	grade 1 (long life)
Stability grade:	
pitch 15 mm	grade 2
pitch 22.5 and 27.5 mm	grade 1
Materials	qualified in accordance with UL94 V-0

AC and pulse metallized polypropylene film capacitors

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COMPOSITION OF CATALOGUE NUMBER



TYPE	PACKAGING	LEAD CONFIGURATION	PREFERRED TYPES					
			C-TOL	630 V	1000 V	1600 V	2000 V	2500 V
378	loose in box	lead length 3.5 mm	±5%	64	74	84	94	04
			ON REQUEST					
378	loose in box	lead length 5.0 mm	±5%	62	72	82	92	02
	taped on reel			65	75	85	95	05

AC and pulse metallized polypropylene film capacitors

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MKP/MKP 378 GENERAL DATA

PITCH 15 mm

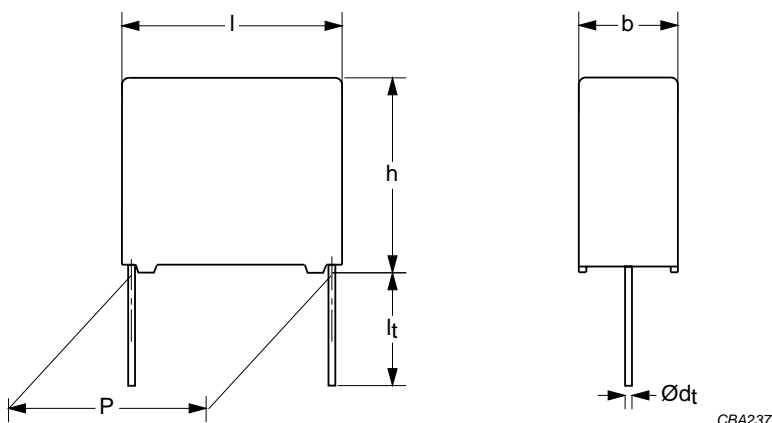


Fig.3 Outline.

Specific reference data for the 630 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: $C \leq 0.051 \mu\text{F}$	$\leq 8 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 630 V (DC)	500 V/ μs	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
R between leads and case; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
Ionization (AC)voltage (typical value) at 50 pC peak discharge	$>400 \text{ V}$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	1008 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

Available 630 V DC versions

PACKAGING	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 64...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 62...	on request
Taped on reel	$H = 18.5 \text{ mm}$; $P_0 = 12.7 \text{ mm}$	$\pm 5\%$	2222 378 65...	on request

Available 630 V DC versions on request

C (μF)	Pitch = $15.0 \pm 0.4 \text{ mm}$; $b \times h \times l = 8.5 \text{ mm} \times 15.0 \text{ mm} \times 17.5 \text{ mm}$		
	LOOSE IN BOX; SPQ = 1000		REEL; SPQ = 650
	$l_t = 3.5 \pm 0.3 \text{ mm}$	$l_t = 5.0 \pm 1.0 \text{ mm}$	H = 18.5 mm
0.056	2222 378 90042	2222 378 90043	2222 378 90044
0.062	2222 378 90046	2222 378 90047	2222 378 90048

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$U_{Rdc} = 630 \text{ V}$; $U_{Rac} = 300 \text{ V}$; $U_{p-p} = 850 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalogue number					
Pitch = $15.0 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.015	5.0 × 11.0 × 17.5	1.2	64153	1000	1100
0.016			64163		
0.018			64183		
0.02			64203		
0.022			64223		
0.024	6.0 × 12.0 × 17.5	1.4	64243	1000	900
0.027			64273		
0.03			64303		
0.033			64333		
0.036	7.0 × 13.5 × 17.5	1.9	64363	1000	800
0.039			64393		
0.043			64433		
0.047	8.5 × 15.0 × 17.5	2.6	64473	1000	650
0.051			64513		

AC and pulse metallized polypropylene film capacitors

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MKP/MKP 378 GENERAL DATA

PITCH 22.5/27.5 mm

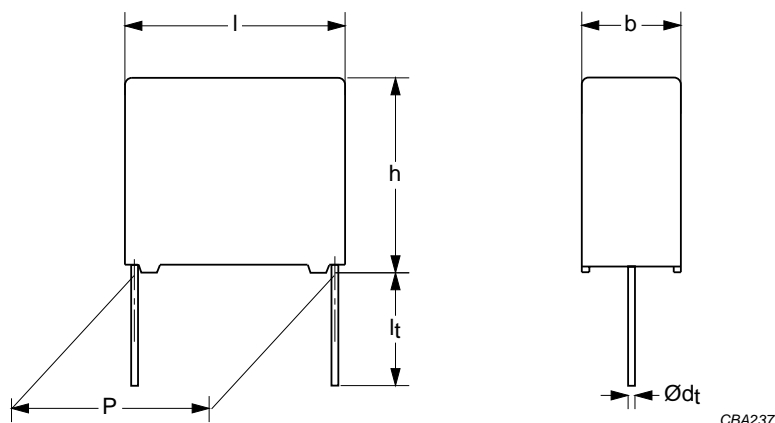


Fig.4 Outline.

Specific reference data for the 630 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
$C \leq 0.18 \mu\text{F}$	$\leq 8 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
$0.2 \mu\text{F} \leq C \leq 0.3 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
$0.33 \mu\text{F} \leq C \leq 0.39 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 30 \times 10^{-4}$
$0.43 \mu\text{F} \leq C \leq 0.51 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
$C > 0.51 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 45 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 630 V (DC):		
$P = 22.5 \text{ mm}$	370 V/ μs	
$P = 27.5 \text{ mm}$	230 V/ μs ($b < 15 \text{ mm}$)	
$P = 27.5 \text{ mm}$	120 V/ μs ($b \geq 15 \text{ mm}$)	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
R between leads and case; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
Ionization (AC)voltage (typical value) at 50 pC peak discharge	$>400 \text{ V}$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	1008 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

Available 630 V DC versions

PACKAGING ⁽¹⁾	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 64...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 62...	on request
Taped on reel	$H = 18.5 \text{ mm}$; $P_0 = 12.7 \text{ mm}$	$\pm 5\%$	2222 378 65...	on request

Note

1. Taped on reel pitch = 27.5 mm is not available.

AC and pulse metallized polypropylene film capacitors

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 $U_{Rdc} = 630 \text{ V}; U_{Rac} = 300 \text{ V}; U_{p-p} = 850 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalogue number			SPQ	SPQ	
Pitch = $22.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.068	7.0 × 16.5 × 26.0	3.2	64683	200	550
0.075			64753		
0.082			64823		
0.091			64913		
0.1	8.5 × 18.0 × 26.0	4.4	64104	200	450
0.11			64114		
0.12			64124		
0.13			64134		
0.15	10.0 × 19.5 × 26.0	5.5	64154	200	350
0.16			64164		
0.18			64184		
Pitch = $27.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.2	11.0 × 21.0 × 31.0	7.8	64204	100	
0.22			64224		
0.24			64244		
0.27			64274		
0.3	13.0 × 23.0 × 31.0	10.4	64304	100	
0.33			64334		
0.36			64364		
0.39			64394		
0.43	15.0 × 25.0 × 31.0	12.8	64434	100	
0.47			64474		
0.51			64514		
0.56	18.0 × 28.0 × 31.0	17.2	64564	100	
0.62			64624		
0.68			64684		

AC and pulse metallized polypropylene film capacitors

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MKP/MKP 378 GENERAL DATA

PITCH 15 mm

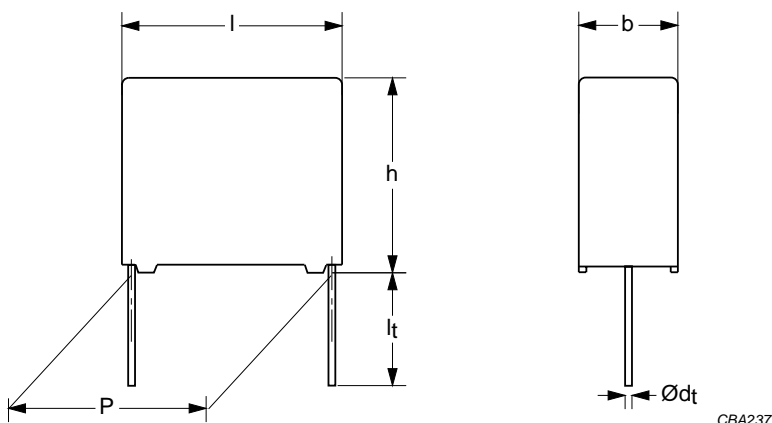


Fig.5 Outline.

Specific reference data for the 1000 V DC capacitors

DESCRIPTION	VALUE	
Tangent of loss angle: $C \leq 0.011 \mu\text{F}$	at 10 kHz	at 100 kHz
	$\leq 6 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 1000 V (DC)	1300 V/ μs	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
R between leads and case; 500 V; 1 minute	$>100000 \text{ M}\Omega$	
Ionization (AC)voltage (typical value) at 50 pC peak discharge	$>500 \text{ V}$	
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	

Available 1000 V DC versions

PACKAGING	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 74...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 72...	on request
Taped on reel	$H = 18.5 \text{ mm}$; $P_0 = 12.7 \text{ mm}$	$\pm 5\%$	2222 378 75...	on request

Available 1000 V DC versions on request

C (μF)	Pitch = $15.0 \pm 0.4 \text{ mm}$; $b \times h \times l = 8.5 \text{ mm} \times 15.0 \text{ mm} \times 17.5 \text{ mm}$		
	LOOSE IN BOX; SPQ = 1000		REEL; SPQ = 650
	$l_t = 3.5 \pm 0.3 \text{ mm}$	$l_t = 5.0 \pm 1.0 \text{ mm}$	H = 18.5 mm
0.012	2222 378 90051	2222 378 90052	2222 378 90053
0.013	2222 378 90055	2222 378 90056	2222 378 90057
0.015	2222 378 90059	2222 378 90061	2222 378 90062
0.016	2222 378 90064	2222 378 90065	2222 378 90066
0.018	2222 378 90068	2222 378 90069	2222 378 90071

AC and pulse metallized polypropylene film capacitors

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$U_{Rdc} = 1000 \text{ V}$; $U_{Rac} = 400 \text{ V}$; $U_{p-p} = 1130 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalogue number					
Pitch = $15.0 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.003	$5.0 \times 11.0 \times 17.5$	1.2	74302	1000	1100
0.0033			74332		
0.0036			74362		
0.0039			74392		
0.0043			74432		
0.0047			74472		
0.0051			74512		
0.0056			74562		
0.0062			74622		
0.0068			74682		
0.0075			74752		
0.0082	$6.0 \times 12.0 \times 17.5$	1.4	74822	1100	900
0.0091			74912		
0.01			74103		
0.011			74113		

AC and pulse metallized polypropylene film capacitors

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MKP/MKP 378 GENERAL DATA

PITCH 22.5/27.5 mm

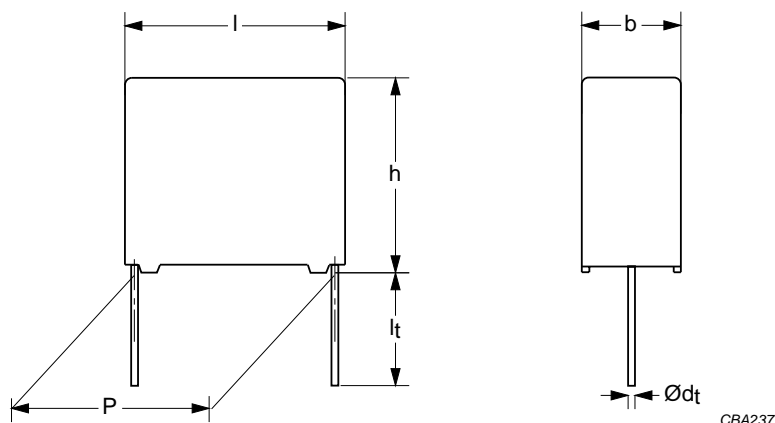


Fig.6 Outline.

Specific reference data for the 1000 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: $C \leq 0.051 \mu\text{F}$ $0.056 \mu\text{F} \leq C \leq 0.22 \mu\text{F}$	$\leq 6 \times 10^{-4}$ $\leq 8 \times 10^{-4}$	$\leq 15 \times 10^{-4}$ $\leq 20 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 1000 V (DC): P = 22.5 mm P = 27.5 mm P = 27.5 mm	1200 V/ μs 600 V/ μs (b < 15 mm) 300 V/ μs (b \geq 15 mm)	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>100000 M Ω	
Ionization (AC)voltage (typical value) at 50 pC peak discharge	>500 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	

Available 1000 V DC versions

PACKAGING ⁽¹⁾	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 74...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 72...	on request
Taped on reel	H = 18.5 mm; P ₀ = 12.7 mm	$\pm 5\%$	2222 378 75...	on request

Note

1. Taped on reel pitch = 27.5 mm is not available.

AC and pulse metallized polypropylene film capacitors

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$U_{Rdc} = 1000 \text{ V}$; $U_{Rac} = 400 \text{ V}$; $U_{p-p} = 1130 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
			last 5 digits of catalogue number	SPQ	
Pitch = $22.5 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.02	7.0 × 16.5 × 26.0	3.2	74203	200	550
0.022			74223		
0.024			74243		
0.027	8.5 × 18.0 × 26.0	4.4	74273	200	450
0.03			74303		
0.033			74333		
0.036			74363		
0.039	10.0 × 19.5 × 26.0	5.5	74393	200	350
0.043			74433		
0.047			74473		
0.051			74513		
Pitch = $27.5 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.056	11.0 × 21.0 × 31.0	7.8	74563	100	
0.062			74623		
0.068			74683		
0.075			74753		
0.082			74823		
0.091	13.0 × 23.0 × 31.0	10.4	74913	100	
0.1			74104		
0.11			74114		
0.12	15.0 × 25.0 × 31.0	12.8	74124	100	
0.13			74134		
0.15			74154		
0.16	18.0 × 28.0 × 31.0	17.5	74164	100	
0.18			74184		
0.2			74204		
0.22			74224		

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

MKP/MKP 378 GENERAL DATA

PITCH 22.5/27.5 mm

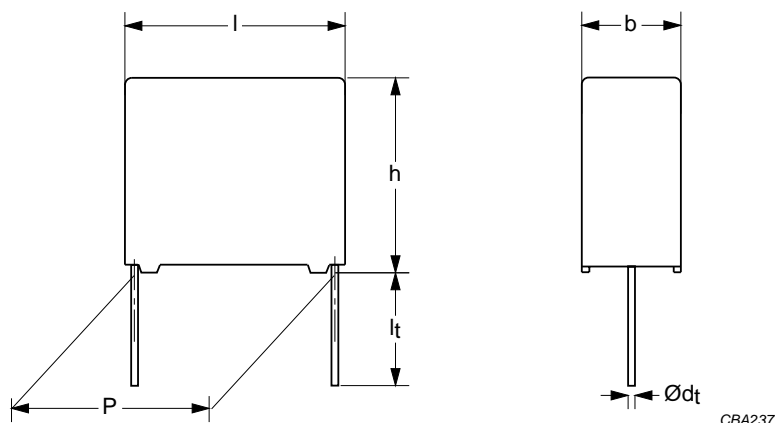


Fig.7 Outline.

Specific reference data for the 1 600 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: $C \leq 0.022 \mu\text{F}$ $0.024 \mu\text{F} \leq C \leq 0.1 \mu\text{F}$	$\leq 5 \times 10^{-4}$ $\leq 6 \times 10^{-4}$	$\leq 10 \times 10^{-4}$ $\leq 15 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 1 600 V (DC): P = 22.5 mm P = 27.5 mm P = 27.5 mm	1 600 V/ μs 900 V/ μs (b < 15 mm) 450 V/ μs (b \geq 15 mm)	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	>100 000 M Ω	
R between leads and case; 500 V; 1 minute	>100 000 M Ω	
Ionization (AC)voltage (typical value) at 20 pC peak discharge	>600 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	2560 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

Available 1 600 V DC versions

PACKAGING ⁽¹⁾	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 84...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 82...	on request
Taped on reel	$H = 18.5 \text{ mm}$; $P_0 = 12.7 \text{ mm}$	$\pm 5\%$	2222 378 85...	on request

Note

1. Taped on reel pitch = 27.5 mm is not available.

AC and pulse metallized polypropylene film capacitors

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 $U_{Rdc} = 1600 \text{ V}; U_{Rac} = 500 \text{ V}; U_{p-p} = 1400 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
			last 5 digits of catalogue number	SPQ	SPQ
Pitch = $22.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.0056	6.0 × 15.5 × 26.0	2.6	84562	300	600
0.0062			84622		
0.0068			84682		
0.0075	7.0 × 16.5 × 26.0	3.2	84752	200	550
0.0082			84822		
0.0091			84912		
0.01			84103		
0.011	8.5 × 18.0 × 26.0	4.4	84113	200	450
0.012			84123		
0.013			84133		
0.015			84153		
0.016			84163		
0.018	10.0 × 19.5 × 26.0	5.5	84183	200	350
0.02			84203		
0.022			84223		
Pitch = $27.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.024	11.0 × 21.0 × 31.0	7.8	84243	100	
0.027			84273		
0.03			84303		
0.033			84333		
0.036			84363		
0.039	13.0 × 23.0 × 31.0	10.4	84393	100	
0.043			84433		
0.047			84473		
0.051			84513		
0.056	15.0 × 25.0 × 31.0	12.8	84563	100	
0.062			84623		
0.068			84683		
0.075	18.0 × 28.0 × 31.0	17.2	84753	100	
0.082			84823		
0.091			84913		
0.1			84104		

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

MKP/MKP 378 GENERAL DATA

PITCH 22.5/27.5 mm

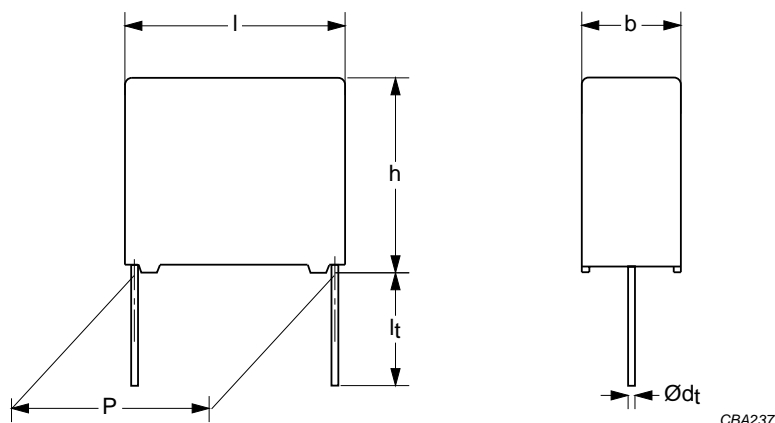


Fig.8 Outline.

Specific reference data for the 2000 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: $C \leq 0.051 \mu\text{F}$	$\leq 5 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 2000 V (DC): P = 22.5 mm P = 27.5 mm P = 27.5 mm	2000 V/ μs 1200 V/ μs (b < 15 mm) 600 V/ μs (b \geq 15 mm)	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>100000 M Ω	
Ionization (AC)voltage (typical value) at 20 pC peak discharge	>600 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	3200 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

Available 2000 V DC versions

PACKAGING ⁽¹⁾	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 94...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 92...	on request
Taped on reel	H = 18.5 mm; P ₀ = 12.7 mm	$\pm 5\%$	2222 378 95...	on request

Note

1. Taped on reel pitch = 27.5 mm is not available.

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

$U_{Rdc} = 2000 \text{ V}$; $U_{Rac} = 600 \text{ V}$; $U_{p-p} = 1700 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
			last 5 digits of catalogue number	SPQ	SPQ
Pitch = $22.5 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.0033 0.0036	6.0 × 15.5 × 26.0	2.6	94332 94362	300	600
0.0039 0.0043 0.0047 0.0051	7.0 × 16.5 × 26.0	3.2	94392 94432 94472 94512	200	550
0.0056 0.0062 0.0068 0.0075 0.0082	8.5 × 18.0 × 26.0	4.4	94562 94622 94682 94752 94822	200	450
0.0091 0.01 0.011 0.012	10.0 × 19.5 × 26.0	5.5	94912 94103 94113 94123	200	350
Pitch = $27.5 \pm 0.4 \text{ mm}$; $d_t = 0.80 \pm 0.08 \text{ mm}$					
0.013 0.015 0.016 0.018 0.02	11.0 × 21.0 × 31.0	7.8	94133 94153 94163 94183 94203	100	
0.022 0.024 0.027	13.0 × 23.0 × 31.0	10.4	94223 94243 94273	100	
0.030 0.033 0.036	15.0 × 25.0 × 31.0	12.8	94303 94333 94363	100	
0.039 0.043 0.047 0.051	18.0 × 28.0 × 31.0	17.5	94393 94433 94473 94513	100	

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

MKP/MKP 378 GENERAL DATA

PITCH 22.5/27.5 mm

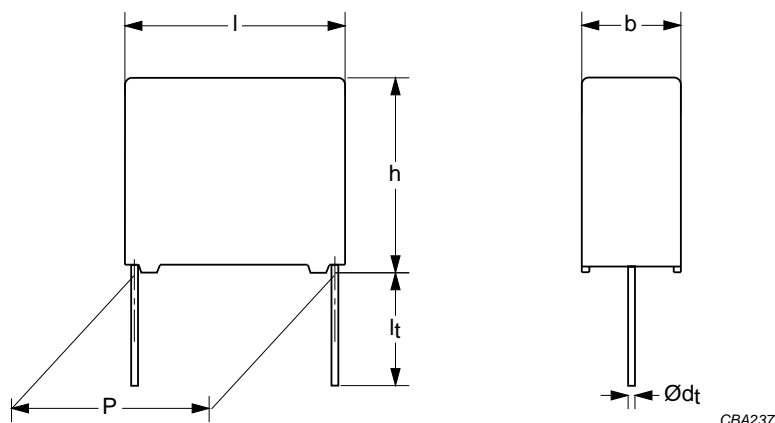


Fig.9 Outline.

Specific reference data for the 2500 V DC capacitors

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle: $C \leq 0.03 \mu\text{F}$	$\leq 5 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
Rated voltage pulse slope $(dU/dt)_R$ at 2500 V (DC): P = 22.5 mm P = 27.5 mm P = 27.5 mm	2000 V/ μs 2000 V/ μs (b < 15 mm) 1000 V/ μs (b \geq 15 mm)	
R between leads, for $C \leq 1 \mu\text{F}$; 500 V; 1 minute	>100000 M Ω	
R between leads and case; 500 V; 1 minute	>100000 M Ω	
Ionization (AC)voltage (typical value) at 5 pC peak discharge	>900 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	3200 V; 1 minute	
Withstanding (DC) voltage between leads and case	2840 V; 1 minute	

Available 2500 V DC versions

PACKAGING ⁽¹⁾	DIMENSIONS	C-tol	FIRST 9 DIGITS OF CATALOGUE NUMBER	ORDERING
Loose in box	$l_t = 3.5 \pm 0.3 \text{ mm}$	$\pm 5\%$	2222 378 04...	preferred
	$l_t = 5.0 \pm 1.0 \text{ mm}$	$\pm 5\%$	2222 378 02...	on request
Taped on reel	H = 18.5 mm; P ₀ = 12.7 mm	$\pm 5\%$	2222 378 05...	on request

Note

1. Taped on reel pitch = 27.5 mm is not available.

AC and pulse metallized polypropylene film capacitors

MKP/MKP 378

 $U_{Rdc} = 2500 \text{ V}; U_{Rac} = 675 \text{ V}; U_{p-p} = 1900 \text{ V}$

C (μF)	DIMENSIONS $b \times h \times l$ (mm)	MASS (g)	CATALOGUE NUMBER 2222 378 AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 3.5 \pm 0.3 \text{ mm}$	all leads	SPQ
			C-tol = $\pm 5\%$	SPQ	
			last 5 digits of catalogue number	SPQ	SPQ
Pitch = $22.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.002	6.0 × 15.5 × 26.0	2.6	04202	300	600
0.0022			04222		
0.0024			04242		
0.0027			04272		
0.003	7.0 × 16.5 × 26.0	3.2	04302	200	550
0.0033			04332		
0.0036			04362		
0.0039	8.5 × 18.0 × 26.0	4.4	04392	200	450
0.0043			04432		
0.0047			04472		
0.0051			04512		
0.0056			04562		
0.0062	10.0 × 19.5 × 26.0	5.5	04622	200	350
0.0068			04682		
0.0075			04752		
0.0082			04822		
Pitch = $27.5 \pm 0.4 \text{ mm}; d_t = 0.80 \pm 0.08 \text{ mm}$					
0.0091	11.0 × 21.0 × 31.0	7.8	04912	100	300
0.01			04103		
0.011			04113		
0.012	13.0 × 23.0 × 31.0	10.4	04123	100	250
0.013			04133		
0.015			04153		
0.018	15.0 × 25.0 × 31.0	12.8	04183	100	200
0.02			04203		
0.022	18.0 × 28.0 × 31.0	17.2	04223	100	150
0.024			04243		
0.027			04273		
0.03			04303		