

# PMS

## Metallized polypropylene film capacitor

### MKP - Switching/snubber - High current



#### Main applications

Switching capacitor for resonant circuits, industrial and motor speed controls, induction heaters, high frequency and high current applications

#### Dielectric

Polypropylene

#### Electrodes

Vacuum deposited metal layers

#### Coating

Solvent resistant plastic case with resin sealing (UL 94 V-0). Flame retardant execution

#### Construction

Extended metallized film with internal series connection (refer to general technical information)

#### Terminals

Tinned copper lugs (lead-free) for screw fixing (please refer to article table)

#### Degree of protection

IP00

#### Installation

Whatever position assuring correct heat dissipation. Arrangement of many components with box walls in contact not admitted; suggested minimum distance between side by side elements  $\geq 1/8$  of the box thickness (B size). Box with lugs terminals must be free to correctly dissipate from all the body faces

#### Reference standard

IEC 61071, IEC 60068, RoHS compliant

#### Climatic category

40/85/56 (IEC 60068/1), GPD (DIN40040)

#### Operating temperature range (case)

$-40^{\circ}\dots+85^{\circ}\text{C}$  ( $+100^{\circ}\text{C}$  observing voltage and current de-rating)

#### Max. permissible ambient temperature

$+70^{\circ}\text{C}$ , operation at rated power, current, voltage and natural cooling ( $+85^{\circ}\text{C}$  observing voltage and current de-rating)

#### Rated capacitance (Cr)

0,068F to 9 $\mu\text{F}$ . Refer to article table

#### Capacitance tolerance (at 1kHz)

$\pm 10\%$  (code=K),  $\pm 5\%$  (code=J). Other tolerances upon request

#### Capacitance temperature coefficient

Refer to graphs in general technical information

#### Long term stability (at 1 kHz)

Capacitance variation  $\leq \pm 1\%$  after a period of 2 years at standard environmental conditions

#### Rated voltage (Ur)

700, 850, 1000, 1200, 1500, 2000, 2500, 3000 Vdc ( $+85^{\circ}\text{C}$ )

#### Temperature de-rated voltage

For operating temperature (case)  $> +85^{\circ}\text{C}$ ,  
Ur must be decreased 1,5% for every  $^{\circ}\text{C}$  exceeding  $+85^{\circ}\text{C}$   
Urms must be decreased 2,5% for every  $^{\circ}\text{C}$  exceeding  $+85^{\circ}\text{C}$

#### Non recurrent surge voltage (Upk)

1100, 1300, 1550, 1750, 2200, 2600, 3300, 4000 Vdc ( $+85^{\circ}\text{C}$ )

#### Self inductance

$\leq 1\text{nH/mm}$  of fixing pitch

#### Maximum pulse rise time

Refer to article table

#### Maximum peak current (Ipeak)

Refer to article table. Max. non repetitive Ipk =  $1,5 \times I_{\text{peak}}$

#### Dissipation factor (DF), max.

$Tg\delta \times 10^{-4}$ , measured at  $25\pm 5^{\circ}\text{C}$ , 1kHz

Cr $\leq 1\mu\text{F}$	Cr $> 1\mu\text{F}$
5	6

#### Insulation resistance (IR)

$\geq 3000\text{s}$  but need not exceed  $30\text{G}\Omega$  (typical value), when measured between terminals, at  $25\pm 5^{\circ}\text{C}$ , after 1 minute of electrification at 100Vdc

#### Test voltage between terminals (Ut)

$1,6 \times U_r$  (DC) applied for 10s /  $2 \times U_r$  (DC) applied for 2s, at  $25\pm 5^{\circ}\text{C}$

#### Test voltage between terminals and case (Utc)

3kV 50+60Hz applied for 60s at  $25\pm 5^{\circ}\text{C}$

#### Damp heat test (steady state)

Test conditions:  
Temperature=  $+40\pm 2^{\circ}\text{C}$   
Relative humidity=  $93\pm 2\%$   
Test duration= 56 days

#### Performance:

Capacitance change  $\leq \pm 2\%$   
DF change  $\leq 0,0010$  at 1kHz  
IR  $\geq 50\%$  of initial limit value

#### Typical capacitance change versus operating time

-3% after 30'000 hours at Urms or after 100'000 hours at Ur

#### Life expectancy

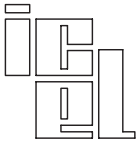
$\geq 100'000$  hours (Ur); 30'000 hours (Urms)

#### Failure quota

300/10<sup>9</sup> component hours

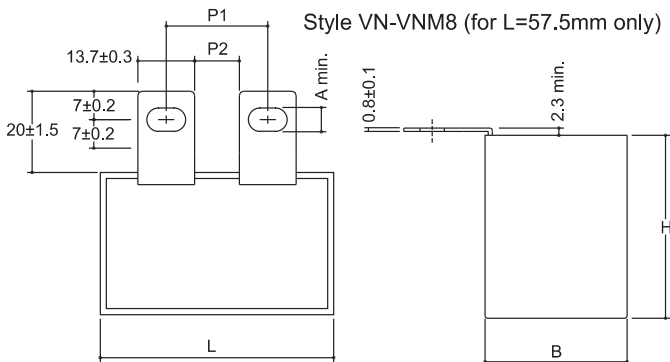
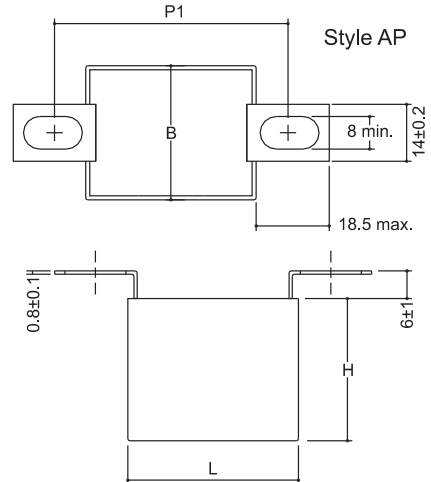
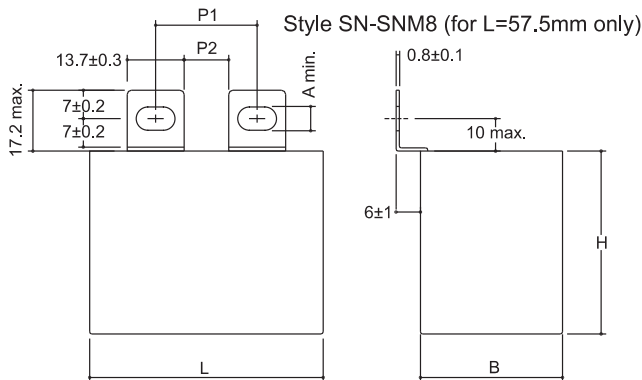
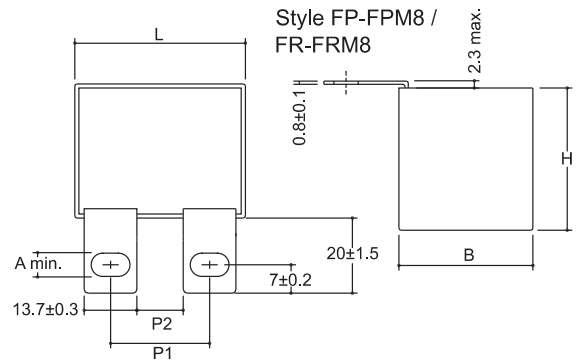
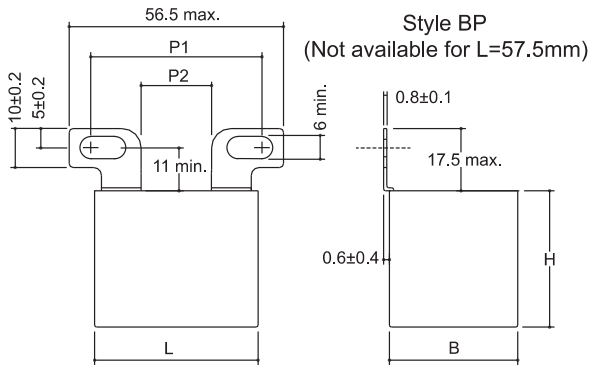
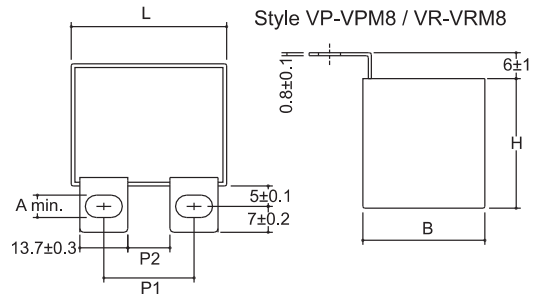
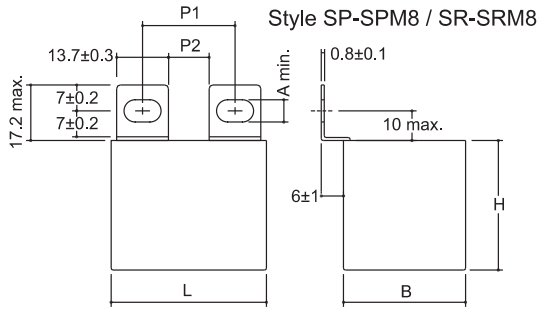
### Warning

This specification must be completed with the data given in the "General technical information" chapter



# PMS

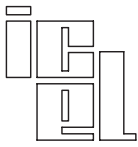
## Metallized polypropylene film capacitor MKP - Switching/snubber - High current



Fixing slot size (mm)	
SP, VP, FP, SR, VR, FR, SN, VN	A = 6 min
SPM8, VPM8, FPM8, SRM8, VRM8, FRM8, SNM8, VNM8	A = 8 min.

Fixing pitch and distance between lugs (mm)				
Lug style	L	P1		P2
		M6	M8	min.
SP-SPM8	42,5	23 ÷ 28	25 ÷ 26	11
VP-VPM8	57,5	37 ÷ 42	39 ÷ 40	24
FP-FPM8				
SR-SRM8	42,5	20 ÷ 25	22 ÷ 23	8
VR-VRM8	57,5	34 ÷ 39	36 ÷ 37	21
FR-FRM8				
SN-SNM8	42,5	Not available		
VN-VNM8	57,5	23 ÷ 28	25 ÷ 26	11
AP	42,5	-	51 ÷ 64	-
	57,5	-	65 ÷ 78	-
BP	42,5	32 ÷ 45	-	17
	57,5	Not available		

Note: standard fixing slots are for M6 screws; execution with slots for M8 screws upon request only (AP excluded)



# PMS

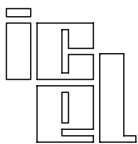
## Metallized polypropylene film capacitor MKP - Switching/snubber - High current



**PMS article table (different values available upon request)**

Ur Vdc	Urms Vac <sup>(4)</sup>	UpK Vdc	Cap. μF	Dimension in mm			du/dt V/μs	Ipeak A	Irms <sup>(2)</sup> A	ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(1)</sup>
				B	H	L					
700	420	1100	1,5	17	28	42,5	150	225	15	3,5	PMS1704150*##B
700	420	1100	1,5	24,5	27,5	42,5	150	225	16	3,5	PMS1704150*##
700	420	1100	2	24,5	27,5	42,5	150	300	17,5	3,1	PMS1704200*##
700	420	1100	3	33,5	35,5	42,5	150	450	22,5	2,6	PMS1704300*##
700	420	1100	3,3	33,5	35,5	42,5	150	495	23	2,5	PMS1704330*##
700	420	1100	4	33,5	35,5	42,5	150	600	24,5	2,2	PMS1704400*##
700	420	1100	4,7	33	45	42,5	150	705	29	1,9	PMS1704470*##
700	420	1100	5	33	45	42,5	150	750	29	1,9	PMS1704500*##
700	420	1100	5,6	33	45	42,5	150	840	30,5	1,7	PMS1704560*##
700	420	1100	6,8	30	45	57,5	100	680	28,5	2,3	PMS1704680*##
700	420	1100	9	35	50	57,5	100	900	34	1,9	PMS1704900*##
850	500	1300	1	17	28	42,5	200	200	14	3,7	PMS1854100*##
850	500	1300	1,2	24,5	27,5	42,5	200	240	17	3,3	PMS1854120*##
850	500	1300	1,5	22	33,5	42,5	200	300	17,5	3	PMS1854150*##
850	500	1300	2,2	33,5	35,5	42,5	200	440	24	2,3	PMS1854220*##
850	500	1300	2,5	33,5	35,5	42,5	200	500	25,5	2,1	PMS1854250*##
850	500	1300	2,7	33,5	35,5	42,5	200	540	26	2	PMS1854270*##
850	500	1300	3	33	45	42,5	200	600	28	1,9	PMS1854300*##
850	500	1300	3,3	33	45	42,5	200	660	28,5	1,9	PMS1854330*##
850	500	1300	4	33	45	42,5	200	800	30,5	1,7	PMS1854400*##
850	500	1300	4,7	30	45	57,5	110	517	29	2,2	PMS1854470*##
850	500	1300	5	30	45	57,5	110	550	29	2,2	PMS1854500*##
850	500	1300	5,6	35	50	57,5	110	616	33,5	1,9	PMS1854560*##
850	500	1300	6	35	50	57,5	110	693	34,5	1,8	PMS1854600*##
1000	575	1550	0,68	17	28	42,5	225	153	14	4,1	PMS2103680*##
1000	575	1550	1	24,5	27,5	42,5	225	225	17	3,3	PMS2104100*##
1000	575	1550	1,5	28	37	42,5	225	337,5	22	2,6	PMS2104150*##
1000	575	1550	2	33,5	35,5	42,5	225	450	25,5	2,1	PMS2104200*##
1000	575	1550	2,5	33	45	42,5	225	562,5	29,5	1,8	PMS2104250*##
1000	575	1550	3,3	30	45	57,5	135	445,5	28	2,4	PMS2104330*##
1000	575	1550	4,7	35	50	57,5	135	634,5	33,5	1,9	PMS2104470*##
1200	630	1750	0,47	17	28	42,5	225	105,7	12,5	5	PMS2123470*##
1200	630	1750	0,68	24,5	27,5	42,5	255	173	15	4,1	PMS2123680*##
1200	630	1750	1	28	37	42,5	255	255	19,5	3,3	PMS2124100*##
1200	630	1750	1,5	33,5	35,5	42,5	255	382	23	2,6	PMS2124150*##
1200	630	1750	2	33	45	42,5	255	510	28	2	PMS2124200*##
1200	630	1750	2,2	33	45	42,5	255	561	28,5	1,9	PMS2124220*##
1200	630	1750	2,5	30	45	57,5	150	375	28	2,4	PMS2124250*##
1200	630	1750	3	35	50	57,5	150	450	32,5	2,1	PMS2124300*##
1200	630	1750	3,3	35	50	57,5	150	495	33	2	PMS2124330*##
1500	650	2200	0,33	17	28	42,5	320	105,6	12	5,6	PMS2153330*##B
1500	650	2200	0,33	24,5	27,5	42,5	320	105,6	12,5	5,6	PMS2153330*##
1500	650	2200	0,47	24,5	27,5	42,5	320	150,4	14,5	4,5	PMS2153470*##
1500	650	2200	0,68	33,5	35,5	42,5	320	217,6	18,5	3,8	PMS2153680*##
1500	650	2200	1	33,5	35,5	42,5	320	320	22,5	2,6	PMS2154100*##
1500	650	2200	1,3	33	45	42,5	320	416	27	2,1	PMS2154130*##
1500	650	2200	1,5	30	45	57,5	175	262,5	24,5	3,1	PMS2154150*##
1500	650	2200	2	35	50	57,5	175	350	29	2,6	PMS2154200*##
1500	650	2200	2,2	35	50	57,5	175	385	29,5	2,5	PMS2154220*##
2000	700	2600	0,22	17	28	42,5	410	90,2	11	6,4	PMS2203220*##B
2000	700	2600	0,22	24,5	27,5	42,5	410	90,2	12	6,4	PMS2203220*##
2000	700	2600	0,27	24,5	27,5	42,5	410	110,7	13	5,7	PMS2203270*##
2000	700	2600	0,47	33,5	35,5	42,5	410	192,7	18,5	3,8	PMS2203470*##
2000	700	2600	0,56	33,5	35,5	42,5	410	229,6	20	3,4	PMS2203560*##
2000	700	2600	0,68	33	45	42,5	410	278,8	22,5	3	PMS2203680*##
2000	700	2600	0,82	33	45	42,5	410	336,2	24	2,7	PMS2203820*##
2000	700	2600	1	30	45	57,5	225	225	23	3,5	PMS2204100*##
2000	700	2600	1,5	35	50	57,5	225	337,5	27,5	2,8	PMS2204150*##

<sup>(1)</sup>Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the ## characters with the needed style code - <sup>(2)</sup>Max. at 100kHz, +70°C for case operating T= +85°C (at T amb. >+70°C and T case>+85°C voltage and current de-rating must be observed), C tol. ≤±10% - <sup>(3)</sup>Typical values at 100kHz - <sup>(4)</sup>Not suitable for across the line application



# PMS

## Metallized polypropylene film capacitor MKP - Switching/snubber - High current



Ur Vdc	Urms Vac <sup>(4)</sup>	UpK Vdc	Cap. μF	Dimension in mm			du/dt V/μs	I <sub>peak</sub> A	I <sub>rms</sub> <sup>(2)</sup> A	ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(1)</sup>
				B	H	L					
2500	725	3300	0,1	17	28	42,5	550	55	8	11,7	PMS2253100*##
2500	725	3300	0,12	17	28	42,5	550	66	8,5	10,3	PMS2253120*##B
2500	725	3300	0,12	24,5	27,5	42,5	550	66	9	10,3	PMS2253120*##
2500	725	3300	0,15	24,5	27,5	42,5	550	82,5	10	8,5	PMS2253150*##
2500	725	3300	0,18	24,5	27,5	42,5	550	99	11	7,3	PMS2253180*##
2500	725	3300	0,22	33,5	35,5	42,5	550	121	14,5	6,1	PMS2253220*##
2500	725	3300	0,33	33,5	35,5	42,5	550	181,5	17	4,7	PMS2253330*##
2500	725	3300	0,39	33,5	35,5	42,5	550	214,5	18	4,1	PMS2253390*##
2500	725	3300	0,47	33	45	42,5	550	258,5	21	3,5	PMS2253470*##
2500	725	3300	0,56	33	45	42,5	550	308	22,5	3,1	PMS2253560*##
2500	725	3300	0,68	30	45	57,5	280	190,4	22	3,9	PMS2253680*##
2500	725	3300	1	35	50	57,5	280	280	26,5	3,1	PMS2254100*##
3000	750	4000	0,068	17	28	42,5	750	51	7	14,8	PMS2302680*##B
3000	750	4000	0,068	24,5	27,5	42,5	750	51	7,5	14,8	PMS2302680*##
3000	750	4000	0,1	24,5	27,5	42,5	750	75	8,5	10,2	PMS2303100*##
3000	750	4000	0,12	22	33,5	42,5	750	90	10,5	8,9	PMS2303120*##B
3000	750	4000	0,12	33,5	35,5	42,5	750	90	11,5	8,9	PMS2303120*##
3000	750	4000	0,15	33,5	35,5	42,5	750	112,5	13	7,3	PMS2303150*##
3000	750	4000	0,18	33,5	35,5	42,5	750	135	14	6,3	PMS2303180*##
3000	750	4000	0,22	33	45	42,5	750	165	17	5,3	PMS2303220*##
3000	750	4000	0,3	33	45	42,5	750	225	19	4,2	PMS2303300*##
3000	750	4000	0,39	30	45	57,5	370	144,3	19	5,2	PMS2303390*##
3000	750	4000	0,47	35	50	57,5	370	173,9	22	4,6	PMS2303470*##
3000	750	4000	0,56	35	50	57,5	370	207,2	23	4,1	PMS2303560*##

<sup>(1)</sup>Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the ## characters with the needed style code - <sup>(2)</sup>Max. at 100kHz, +70°C for case operating T= +85°C (at T amb. >+70°C and T case>+85°C voltage and current de-rating must be observed), C tol. ≤±10% - <sup>(3)</sup>Typical values at 100kHz - <sup>(4)</sup>Not suitable for across the line application

**Warning: this specification must be completed with the data given in the  
“General technical information” chapter**