MUECAP Bauelemente GmbH
Lochhamer Schlag 11 A • 82166 Gräfelfing
Tel. +49 89/89 80 81-0 • Fax: +49 89/854 31 61
info@muecap.de • www.muecap.de

PMC / RMC *Updated*

• MKP • box with lug terminals (RMC: small size) • high current
• high frequency • switching / resonant applications

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 (refer to general technical information)

Terminals
Tinned copper (brass) 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 ≥ 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)
Please refer also to paragraph C10 (humid ambient) of the General Technical Information

Operating temperature range (case)
PMC: -40°...+85°C (+100°C observing voltage and current de-rating)
RMC: -40°...+85°C

Max. permissible ambient temperature
PMC: +70°C, operation at rated power, current, voltage and natural cooling (+85°C observing voltage and current de-rating)
RMC: +70°C, operation at rated power, current, voltage and natural cooling

Nominal Capacitance (Cn) µF
PMC: 1,2µF to 18µF. Refer to article table
RMC: 2,2µF to 100µF. Refer to article table

Capacitance tolerance (at 1kHz)
±10% (code=K), ±5% (code=J). Other tolerances upon request

Capacitance temperature coefficient
Refer to General Technical Information

Long term stability (at 1kHz)
Capacitance variation ≤ ±1% after a period of 2 years at standard environmental conditions

Rated voltage (Ur) (Vdc) at 85°C
PMC: 400, 600, 700 Vdc
RMC: 250, 330, 435, 570, 675 Vdc

Temperature de-rated voltage
PMC: For operating temperature (case)>+85°C, Ur must be decreased 1,5% for every °C exceeding +85°C, Urms must be decreased 2,5% for every °C exceeding +85°C
RMC: not applicable

Non recurrent surge voltage (Upk) at 85°C
PMC: 600, 800, 1000 Vdc
RMC: 335, 440, 580, 760, 900 Vdc

Self inductance
≤ 1nH/mm of fixing pitch

Maximum pulse rise time V/µs
Refer to article table

Maximum peak current (Ipeak)
Refer to article table. Max. non repetitive Ipk = 1,5 x Ipeak

RMS current (Irms)
Refer to article table. PMC only: No superimposed Irms must be applied at Tamb > +95°C (at Tamb > +95°C Irms must be = 0)

Dissipation factor (DF), max.
tgδ x10^{-4}, measured at 25 ±5°C, 1 kHz
PMC:

Cn ≤ 5 µF	5 µF < Cn ≤ 25 µF	25 µF < Cn ≤ 60 µF	Cn > 60 µF
5	8	-	-

RMC:

Cn ≤ 5 µF	5 µF < Cn ≤ 25 µF	25 µF < Cn ≤ 60 µF	Cn > 60 µF
6	10	12	15

Typical Equivalent Series Resistance (ESR) at the reference frequency
Refer to article table

Insulation resistance (R_{INS})
≥ 30000s but need not exceed 30GΩ (typical value), when measured between terminals, at 25±°C, after 1 minute of electrifi cation at 100Vdc

Test voltage between terminals (Ut)
1,6xUr (DC) applied for 10s / 2xUr (DC) applied for 2s, at 25±5°C

Test voltage between terminals and case (Utc)
3kV 50÷60Hz applied for 60s at 25 ±5°C

Damp heat test (steady state)
List of admitted high humidity and temperature tests (please refer to paragraph C10 of the GTI);
Biased tests applicable from 03/2019 production codes only

Test ID	Reference	Permissible
a	Damp heat test (steady state) not biased - IEC60068	YES
b	Damp heat test (steady state) biased - AEC Q-200 cockpit	YES
c	Robustness under high humidity, Grade II - IEC 60384-17:2019	YES
d	High robustness under high humidity, Grade III - IEC 60384-17:2019	YES
e	Damp heat test (steady state) biased - 70/70/1000	NO
f	Humidity load test, Test Cy, Severity II - IEC 60068-2-67	NO
g	Humidity load test, Test Cy, Severity III - IEC 60068-2-67 and 85/85/1000 Level 1 - AEC Q-200	NO

Rated Ur (**DC ONLY**) applied for biased tests

Performance:
Capacitance change ≤ ±2% (for test "a")
Capacitance change ≤ ±10% (for test "b", "c" and "d")
DF change ≤ 0.0010 at 1kHz (for test "a")
DF change ≤ 2 x initial limit at 1kHz (for test "b", "c" and "d")
R_{INS} ≥ 50% of initial limit value
PMC: Box distorsion ≤ 1/16 of the nominal box thickness (B size) or ≤ 1mm whichever is the highest
RMC: Box distorsion ≤ 1/16 of the nominal box thickness (B size) or ≤ 1.5mm whichever is the highest

Typical capacitance change versus operating time
-5% after 30000 hours at Urms or after 100000 hours at Ur

Life expectancy
≥ 100000 hours (Ur); 30000 hours (Urms)

Failure quota
300/10^9 component hours

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PMC / RMC *Updated*

• MKP • box with lug terminals (RMC: small size) • high current
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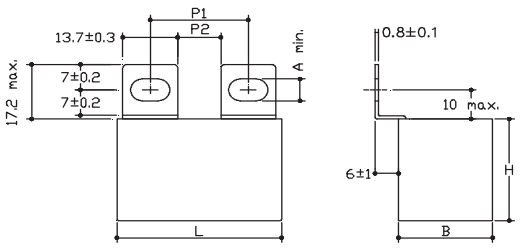
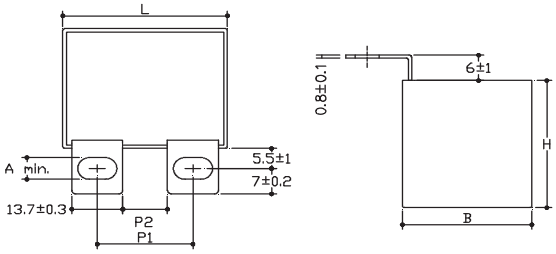
Dimensions in mm (drawings not in scale)

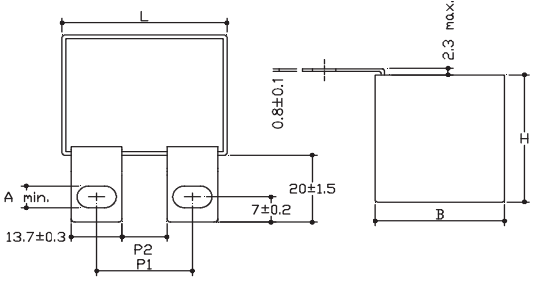
Style **SP-SPM8 / SR-SRM8**



Style **VP-VPM8 / VR-VRM8**



Style **FP-FPM8 / FR-FRM8**

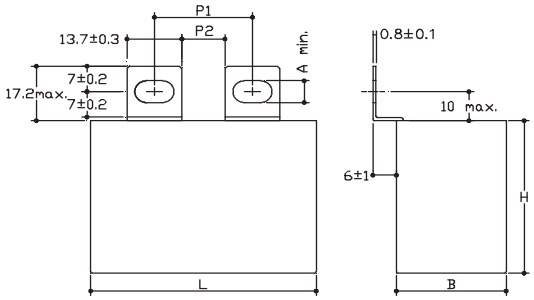


Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
SP-SPM8 VP-VPM8 FP-FPM8	42÷42,5	23÷28(M6) 25÷26(M8)	10min.
	57,5	37÷42(M6) 39÷40(M8)	23min.
SR-SRM8 VR-VRM8 FR-FRM8	42÷42,5	20÷25(M6) 22÷23(M8)	7min.
	57,5	34÷39(M6) 36÷37(M8)	20min.

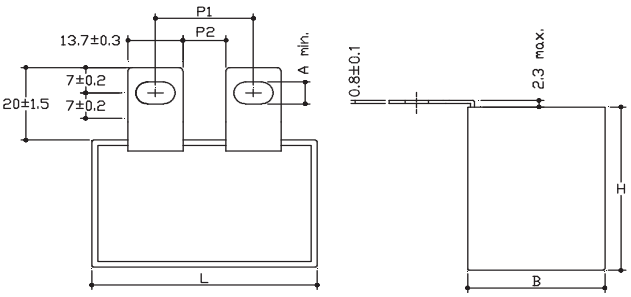
Fixing slot size (mm)**	
SP, VP, FP, SR, VR, FR	A= 6min.
SPM8, VPM8, FPM8, SRM8, VRM8, FRM8	A= 8min.

**** Standard fixing slots for M6 screws, slots for M8 screws available upon request**

Style **SN-SNM8** (for L=57,5mm only)



Style **VN-VNM8** (for L=57,5mm only)

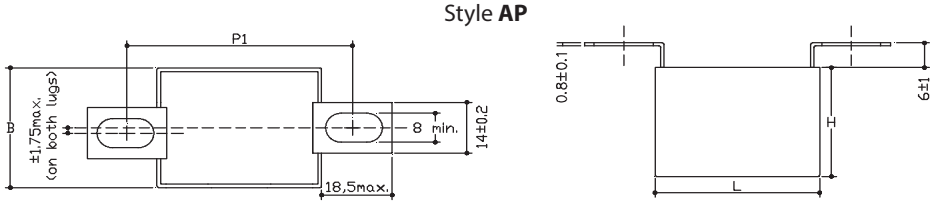


Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
SN-SNM8 VN-VNM8	42÷42,5	Not available	
	57,5	23÷28 (M6) 25÷26 (M8)	10min.

Fixing slot size (mm)**	
SN, VN	A= 6min.
SNM8, VNM8	A= 8min.

**** Standard fixing slots for M6 screws, slots for M8 screws available upo request**

Style **AP**



Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
AP	42÷42,5	53,5÷63 (M8)	-
	57,5	68,5÷77 (M8)	-

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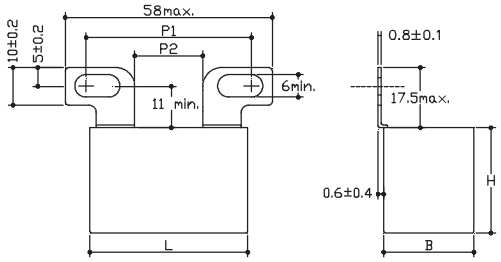
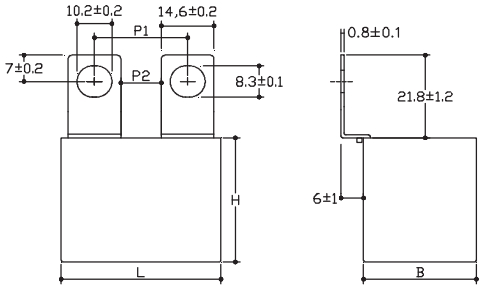
Dimensions in mm (drawings not in scale)

Style **BP** (Not available for L=57,5mm)



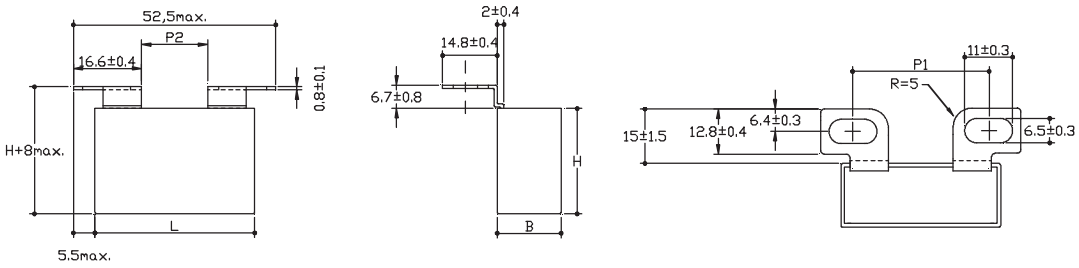
Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
BP	42÷42,5	32÷45 (M6)	17min.
	57,5	Not available	

Style **SL** (M8 slots only)



Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
SL	42÷42,5	22÷24 (M8)	7min.
	57,5	36÷38 (M8)	20min.

Style **BN** (M6 slots only; not available for L=57,5mm and for L=42÷42,5mm having B>22mm)



Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
BN	42÷42,5	30÷37 (M6)	15min.
		For B>22 available upon request	
	57,5	Not available	

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PMC / RMC article table (different values available upon request)

Voltage at +85°C			Cn	Dimensions (mm)			du/dt	Ipeak	Irms[2]	ESR[3]	ICEL CODE[1]
Ur (Vdc)	Urms (Vac) [4]	Upk (Vdc)	µF	B	H	L	V/µs	A	A	mΩ	-
250	150	335	12,5	17	32	42	27,5	343,7	12,5	5,1	**RMC**0355125*§§
250	150	335	15	22	30	42,5	27,5	412,5	14	4,5	**RMC**0355150*§§
250	150	335	17,5	22	33,5	42,5	27,5	481,2	15	4,1	**RMC**0355175*§§
250	150	335	20	22	33,5	42,5	27,5	550	15,5	3,8	**RMC**0355200*§§ [^]
250	150	335	25	28	37	42,5	27,5	687,5	19	3,4	**RMC**0355250*§§
250	150	335	30	33,5	35,5	42,5	27,5	825	20	3	**RMC**0355300*§§
250	150	335	33	30	45	42,5	27,5	907,5	23,5	2,8	**RMC**0355330*§§
250	150	335	35	30	45	42,5	27,5	962,5	24	2,7	**RMC**0355350*§§
250	150	335	40	33	45	42,5	27,5	1100	26	2,4	**RMC**0355400*§§
250	150	335	45	35	50	42	27,5	1237,5	30	2,2	**RMC**0355450*§§
250	150	335	50	30	45	57,5	19	950	23	3,1	**RMC**0355500*§§
250	150	335	55	30	45	57,5	19	1045	24	2,9	**RMC**0355550*§§
250	150	335	68	35	50	57,5	19	1292	27,5	2,6	**RMC**0355680*§§
250	150	335	75	35	50	57,5	19	1425	28,5	2,4	**RMC**0355750*§§
250	150	335	85	38	57,5	57,5	19	1615	31,5	2,2	**RMC**0355850*§§
250	150	335	100	38	57,5	57,5	19	1900	33	2,1	**RMC**0356100*§§
330	200	440	6,8	17	28	42,5	37,5	255	11	6,1	**RMC**0454680*§§
330	200	440	8,2	17	32	42	37,5	307,5	12	5,4	**RMC**0454820*§§
330	200	440	9	24,5	27,5	42,5	37,5	337,5	13	5,1	**RMC**0454900*§§
330	200	440	10	22	30	42,5	37,5	375	13,5	4,6	**RMC**0455100*§§
330	200	440	12	22	33,5	42,5	37,5	450	15	4	**RMC**0455120*§§
330	200	440	15	28	37	42,5	37,5	562,5	18,5	3,5	**RMC**0455150*§§
330	200	440	18	33,5	35,5	42,5	37,5	675	19,5	3,2	**RMC**0455180*§§
330	200	440	22	30	45	42,5	37,5	825	23,5	2,6	**RMC**0455220*§§
330	200	440	25	33	45	42,5	37,5	937,5	25,5	2,4	**RMC**0455250*§§
330	200	440	30	35	50	42	37,5	1125	30	2,2	**RMC**0455300*§§
330	200	440	35	30	45	57,5	26,5	927,5	23	3,1	**RMC**0455350*§§
330	200	440	47	35	50	57,5	26,5	1245,5	27,5	2,5	**RMC**0455470*§§
330	200	440	60	38	57,5	57,5	26,5	1590	32	2,2	**RMC**0455600*§§
400	275	600	4	17	28	42,5	40	160	16,5	3,4	PMC1404400*§§B
400	275	600	4	24,5	27,5	42,5	40	160	16,5	3,4	PMC1404400*§§
400	275	600	5	24,5	27,5	42,5	40	200	18,5	2,9	PMC1404500*§§
400	275	600	6,8	22	33,5	42,5	40	272	22	2,5	PMC1404680*§§B
400	275	600	6,8	33,5	35,5	42,5	40	272	23	2,5	PMC1404680*§§
400	275	600	10	33,5	35,5	42,5	40	400	26,5	2,1	PMC1405100*§§
400	275	600	10	28	37	42,5	40	400	26,5	2,1	PMC1405100*§§A
400	275	600	12,5	30	45	42,5	40	500	29,5	2	PMC1405125*§§A
400	275	600	12,5	33	45	42,5	40	500	29,5	2	PMC1405125*§§
400	275	600	15	33	45	42,5	40	600	31,5	1,9	PMC1405150*§§
400	275	600	18	35	50	42	40	720	33	1,8	PMC1405180*§§

[1] Change the * symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the §§ characters with the needed style code
[2] 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% (for wider C tolerances, ESR variation must be taken in consideration)
[3] Typical values at 100kHz (for operating frequencies far from the reference, ESR variation and related power dissipation variation must be taken in consideration)
[4] Not suitable for across the line application
[^] Not available with C tolerance < ±10%

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Voltage at +85°C			Cn	Dimensions (mm)			du/dt	Ipeak	Irms[2]	ESR[3]	ICEL CODE[1]
Ur (Vdc)	Urms (Vac) [4]	Upk (Vdc)	µF	B	H	L	V/µs	A	A	mΩ	-
435	270	580	4,7	17	28	42,5	47,5	223,2	10	7,1	**RMC**0554470*§§
435	270	580	5,6	17	32	42	47,5	266	11	6,2	**RMC**0554560*§§
435	270	580	6,8	22	30	42,5	47,5	323	12,5	5,3	**RMC**0554680*§§
435	270	580	8	22	33,5	42,5	47,5	380	14	4,7	**RMC**0554800*§§
435	270	580	12	33,5	35,5	42,5	47,5	570	18,5	3,5	**RMC**0555120*§§
435	270	580	15	30	45	42,5	47,5	712,5	22	3,1	**RMC**0555150*§§
435	270	580	17,5	33	45	42,5	47,5	831,2	23,5	2,8	**RMC**0555175*§§
435	270	580	20	35	50	42	47,5	950	26	2,6	**RMC**0555200*§§
435	270	580	22	35	50	42	47,5	1045	27	2,5	**RMC**0555220*§§ (^)
435	270	580	25	30	45	57,5	32,5	812,5	22,5	3,3	**RMC**0555250*§§ (^)
435	270	580	30	35	50	57,5	32,5	975	25,5	3	**RMC**0555300*§§
435	270	580	40	38	57,5	57,5	32,5	1300	29	2,7	**RMC**0555400*§§
570	330	760	2,5	17	28	42,5	65	162,5	10	7,2	**RMC**0704250*§§
570	330	760	3,3	17	32	42	65	214,5	11,5	5,8	**RMC**0704330*§§
570	330	760	4	22	30	42,5	65	260	13	5	**RMC**0704400*§§
570	330	760	4,7	22	33,5	42,5	65	305,5	14	4,5	**RMC**0704470*§§
570	330	760	5	22	33,5	42,5	65	325	14,5	4,5	**RMC**0704500*§§
570	330	760	6,8	28	37	42,5	65	442	18	3,6	**RMC**0704680*§§
570	330	760	7,25	33,5	35,5	42,5	65	471,2	19	3,4	**RMC**0704725*§§
570	330	760	10	30	45	42,5	65	650	23,5	2,8	**RMC**0705100*§§
570	330	760	13	35	50	42	65	845	29,5	2,2	**RMC**0705130*§§
570	330	760	15	30	45	57,5	43,5	652,5	23,5	3	**RMC**0705150*§§ (^)
570	330	760	18,5	35	50	57,5	43,5	804,7	26,5	2,7	**RMC**0705185*§§
570	330	760	22	38	57,5	57,5	43,5	957	30	2,5	**RMC**0705220*§§
570	330	760	25	38	57,5	57,5	43,5	1087,5	31,5	2,3	**RMC**0705250*§§
600	350	800	2,2	17	28	42,5	55	121	14	4,3	PMC1604220*§§
600	350	800	2,5	17	32	42	55	137,5	16	4	PMC1604250*§§A
600	350	800	2,5	24,5	27,5	42,5	55	137,5	16	4	PMC1604250*§§
600	350	800	3	24,5	27,5	42,5	55	165	17	3,6	PMC1604300*§§
600	350	800	3,3	22	30	42,5	55	181,5	17,5	3,5	PMC1604330*§§A
600	350	800	3,3	24,5	27,5	42,5	55	181,5	17	3,5	PMC1604330*§§
600	350	600	4	22	33,5	42,5	55	220	20,5	2,8	PMC1604400*§§B
600	350	800	4	33,5	35,5	42,5	55	220	21,5	2,8	PMC1604400*§§
600	350	800	4,7	33,5	35,5	42,5	55	258,5	24	2,5	PMC1604470*§§
600	350	800	5	33,5	35,5	42,5	55	275	24	2,5	PMC1604500*§§
600	350	800	5	28	37	42,5	55	275	24	2,5	PMC1604500*§§A
600	350	800	5,6	28	37	42,5	55	308	25	2,4	PMC1604560*§§
600	350	800	6,8	30	45	42,5	55	374	28,5	2,2	PMC1604680*§§A
600	350	800	6,8	33	45	42,5	55	374	28,5	2,2	PMC1604680*§§
600	350	800	9	33	45	42,5	55	495	31,5	1,9	PMC1604900*§§
600	350	800	10	35	50	42	55	550	32,5	1,8	PMC1605100*§§A
600	350	800	11	35	50	42	55	605	33	1,7	PMC1605110*§§

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[3] Typical values at 100kHz (for operating frequencies far from the reference, ESR variation and related power dissipation variation must be taken in consideration)
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(^) Not available with C tolerance < ±10%

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• high frequency • switching / resonant applications

Voltage at +85°C			Cn	Dimensions (mm)			du/dt	Ipeak	Irms[2]	ESR[3]	ICEL CODE[1]
Ur (Vdc)	Urms (Vac) [4]	Upk (Vdc)	µF	B	H	L	V/µs	A	A	mΩ	-
675	370	900	2,2	17	28	42,5	72,5	159,5	10,5	6,1	**RMC**0804220*§§
675	370	900	2,5	17	32	42,5	72,5	181,2	11,5	5,6	**RMC**0804250*§§
675	370	900	3,3	22	30	42,5	72,5	239,2	13	4,9	**RMC**0804330*§§
675	370	900	3,75	22	33,5	42,5	72,5	271,8	14	4,6	**RMC**0804375*§§
675	370	900	5	28	37	42,5	72,5	362,5	16,5	4,2	**RMC**0804500*§§
675	370	900	5,6	28	37	42,5	72,5	406	17,5	4	**RMC**0804560*§§
675	370	900	5,6	33,5	35,5	42,5	72,5	406	17,5	4	**RMC**0804560*§§A
675	370	900	6,8	30	45	42,5	72,5	493	20,5	3,6	**RMC**0804680*§§
675	370	900	7,5	30	45	42,5	72,5	543,7	21,5	3,4	**RMC**0804750*§§
675	370	900	8,2	33	45	42,5	72,5	594,5	22,5	3,2	**RMC**0804820*§§
675	370	900	10	35	50	42	72,5	725	25,5	2,6	**RMC**0805100*§§
675	370	900	10	30	45	57,5	50	500	22	3,5	**RMC**0805100*§§A
675	370	900	12,5	35	50	57,5	50	625	25	3,1	**RMC**0805125*§§
675	370	900	15	35	50	57,5	50	7580	27	2,7	**RMC**0805150*§§
675	370	900	18	38	57,5	57,5	50	900	30,5	2,4	**RMC**0805180*§§
700	400	1000	1,2	17	28	42,5	70	84	12	5,6	PMC1704120*§§
700	400	1000	1,5	17	32	42	70	105	14,5	4,8	PMC1704150*§§A
700	400	1000	1,5	24,5	27,5	42,5	70	105	14,5	4,8	PMC1704150*§§
700	400	1000	2	22	30	42,5	70	140	16,5	4	PMC1704200*§§A
700	400	1000	2	24,5	27,5	42,5	70	140	16,5	4	PMC1704200*§§
700	400	1000	2,5	22	33,5	42,5	70	175	18,5	3,4	PMC1704250*§§A
700	400	1000	2,5	33,5	35,5	42,5	70	175	19,5	3,4	PMC1704250*§§
700	400	1000	3	33,5	35,5	42,5	70	210	21,5	3,1	PMC1704300*§§
700	400	1000	3	28	37	42,5	70	210	21,5	3,1	PMC1704300*§§A
700	400	1000	3,3	33,5	35,5	42,5	70	231	22,5	3	PMC1704330*§§
700	400	1000	3,3	28	37	42,5	70	231	22,5	3	PMC1704330*§§A
700	400	1000	4	30	45	42,5	70	280	26	2,6	PMC1704400*§§A
700	400	1000	4	33	45	42,5	70	280	26	2,6	PMC1704400*§§
700	400	1000	4,7	33	45	42,5	70	329	28,5	2,3	PMC1704470*§§
700	400	1000	5	33	45	42,5	70	350	29	2,3	PMC1704500*§§
700	400	1000	6	35	50	42	70	420	31	2	PMC1704600*§§

[1] Change the * symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the §§ characters with the needed style code
[2] 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% (for wider C tolerances, ESR variation must be taken in consideration)
[3] Typical values at 100kHz (for operating frequencies far from the reference, ESR variation and related power dissipation variation must be taken in consideration)
[4] Not suitable for across the line application
[^] Not available with C tolerance < ±10%