

Metallized Film Capacitor

Power Electronic Capacitors

Series/Type: MKP DC-Link

Ordering code: 410A*

Date: April 2024

Version: 01

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Metallized Film Capacitor

C410A*

Power Electronic Capacitors

MKP DC-Link

■ Features

- Low ESR,high ripple current handling capabilities
- Low ESL, less than 8nH
- Self-healing property

- Plastic case, filled with resin

■ Applications

- High frequency inverter

■ Reference Standards

- IEC61071
- IEC60068
- RoHS
- UL 810

■ Specifications

- Capacitance range 6.8μF~500μF
- Capacitance tolerance ±5%(J), ±10%(K)
- Voltage range DC500V~DC2200V
- Dielectric dissipation factor(tanδ_o) 2◇10⁻⁴
- Loss factor(tanδ)at 100Hz ≤1.2◇10⁻³
- Operating temperature range -40℃...105℃
- Storage temperature Range -40℃...105℃
- Maximum altitude ≤2000m
- Frequency range 100Hz~20◇10³Hz
- Service life expectancy (High Frequency design available upon request)
- Failure rate 100,000h @≤1.0U_N @θ_{HS}≤70 °C
100Fit

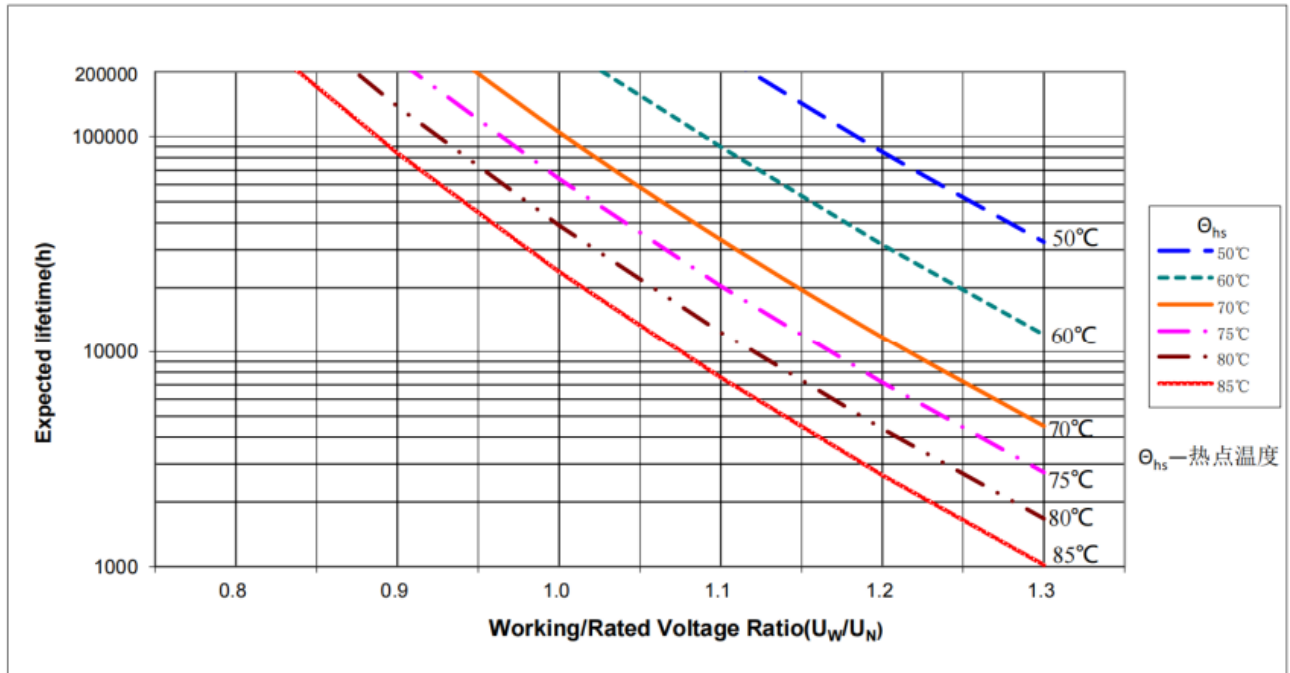
■ Test data

- Capacitance measurement C_N±5%(J); C_N±10%(K);
- Test voltage between terminals 1.5U_{NDC} @10S
- Test voltage between terminals to case (2•U_{NDC}+1000)V.ac, but no less 3000 V.ac @10S
- Loss factor(tanδ)at 100Hz 2.0◇10⁻³

■ Installation

- Terminal form Male terminals or Thread hole type
- Max. torque(case) 3N.m
- Max. torque terminal Female M6: 5 N.m
Female M8: 6 N.m; Male M8 : 8 N.m

■ Expected lifetime curve





■ Structure of ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	4	1	0	A	8	0	1	7	5	6	J	0	0	1	1
Capacitor series				Rated voltage			Rated Capacitance		Capacitance tolerance		Internal use				

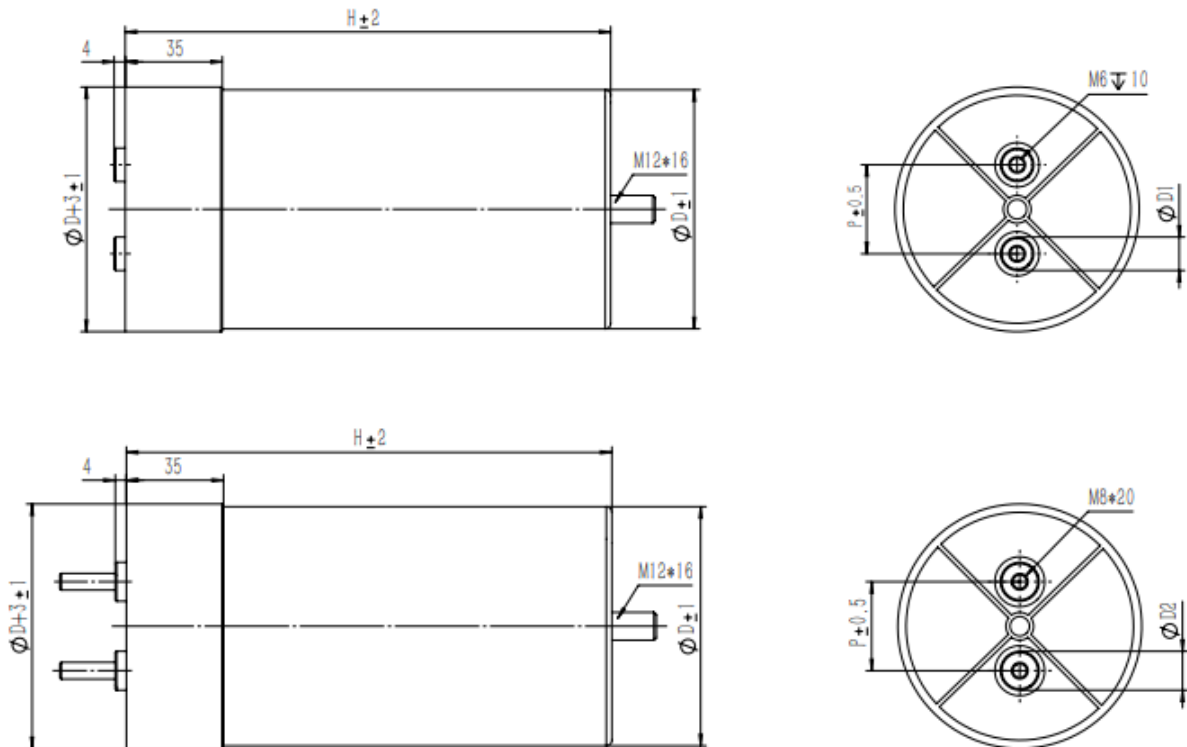
C410A—Capacitor series
 801—Rated voltage 800V
 756J0—Rated capacitance 75 μ F
 J—Capacitance tolerance $\pm 5\%$
 011—Internal use

■ Capacitor marking injected on aluminum case(position refer to drawing)



	Manufacture's logo
MKP	Metallized polypropylene film
C410	Capacitor series
75µF	Capacitance
±5%	Capacitance tolerance
DC 900V	DC rated voltage: DC 800V
SH	Self-healing
-40°C...85°C	Operating temperature range
Dry(PUR)	
P/N:C410A901756J0011	Production code
EMF Technology Co.,Ltd.	Manufacture's name
	Data matrix code: Customer P/N, EMF Batch nr., production serial number

■ Outline Drawing(Specific according to customer requirements)



Mounting hole distance and outer diameter of screw

D=76,86mm	D=96mm	D=116mm	D=136mm
D1=12,14mm	D1=12,14mm	D1=14,16mm	D1=14,16mm
P=32mm	P=45mm	P=50mm	P=50mm

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Technical data

C_N (μF)	D (mm)	H (mm)	\hat{I} (A)	$I_{MAX@45}$ $^{\circ}C$ @10KHz (A)	ESR(m Ω) @1KHz	ESL (nH)	R_{th} (K/ W)	W_N (J)	W (kg)	Part number
$U_{NDC} DC900V, U_S 1350V, U_r 200V$										
280	76	95	117 2	41	1.9	≤ 50	4.6	113	0.5 9	C400A901287* ****
380	86	95	159 1	47	1.8	≤ 50	3.9	154	0.7 3	C400A901387* ****
390	76	120	120 3	41	2.1	≤ 60	4.1	158	0.7 1	C400A901397* ****
450	76	145	239 7	58	1.2	≤ 45	3.7	182	0.8 9	C400A901457* ****
520	86	120	160 4	47	1.9	≤ 60	3.5	211	0.8 9	C400A901527* ****
570	76	175	238 6	60	1.3	≤ 50	3.3	231	1.0 4	C400A901577* ****
600	86	145	319 7	64	1.1	≤ 45	3.2	243	1.1 2	C400A901607* ****
630	96	125	194 3	53	1.8	≤ 60	3.0	255	1.1 6	C400A901637* ****
700	116	100	293 0	60	1.6	≤ 50	2.6	284	1.4 0	C400A901707* ****
750	86	175	314 0	66	1.2	≤ 50	2.9	304	1.3 1	C400A901757* ****
780	76	225	240 6	62	1.4	≤ 60	2.9	316	1.3 0	C400A901787* ****
850	96	150	452 9	71	1.1	≤ 45	2.9	344	1.4 1	C400A901857* ****
100 0	116	125	308 4	60	1.6	≤ 60	2.3	405	1.6 7	C400A901108* ****
105 0	86	225	323 9	69	1.3	≤ 60	2.5	425	1.6 2	C400A901108* 5***
120 0	96	230	370 1	75	1.2	≤ 60	2.2	486	2.1 1	C400A901128* ****
130 0	136	125	401 0	60	1.6	≤ 60	1.9	527	2.3 3	C400A901138* ****
145 0	116	180	607 0	84	1.1	≤ 50	2.0	587	2.4 3	C400A901148* 5***
150 0	136	150	799 2	91	1.0	≤ 45	1.7	608	2.9 3	C400A901158* ****
190	136	180	795	94	1.0	≤ 50	1.6	770	3.4	C400A901198*

0			4						1	****
200	116	230	616	88	1.1	≤60	1.7	810	2.9	C400A901208*
0			9						8	****
270	136	230	832	99	1.1	≤60	1.4	109	4.1	C400A901278*
0			8					4	7	****

U_{NDC} DC1100V, U_S 1650V, U_r 250V

180	76	95	952	40	2.1	≤50	4.6	109	0.5	C400A112187*
									8	****
230	86	95	121	45	1.9	≤50	3.9	139	0.7	C400A112237*
			6						4	****
250	76	120	974	40	2.3	≤60	4.1	151	0.7	C400A112257*
									1	****
280	76	145	188	56	1.3	≤45	3.7	169	0.8	C400A112287*
			4						9	****
300	96	100	158	51	1.8	≤50	3.3	182	0.9	C400A112307*
			6						6	****
330	86	120	128	45	2.1	≤60	3.5	200	0.8	C400A112337*
			6						9	****
350	76	175	185	58	1.4	≤50	3.3	212	1.0	C400A112357*
			1						5	****
400	86	145	269	63	1.2	≤45	3.2	242	1.1	C400A112407*
			2						2	****
420	86	136	141	46	2.1	≤60	3.3	254	0.9	C400A112427*
			3						8	****
450	116	100	237	60	1.6	≤50	2.6	272	1.3	C400A112457*
			9						9	****
460	96	150	309	69	1.1	≤45	2.7	278	1.4	C400A112467*
			6						5	****
480	76	225	187	59	1.5	≤60	2.9	290	1.3	C400A112487*
			0						0	****
500	86	175	264	65	1.2	≤50	2.9	303	1.2	C400A112507*
			4						9	****
600	96	180	317	71	1.2	≤50	2.5	363	1.6	C400A112607*
			3						9	****
630	136	100	333	60	1.5	≤50	2.1	381	1.9	C400A112637*
			1						1	****
650	116	125	253	60	1.7	≤60	2.3	393	1.6	C400A112657*
			3						5	****
680	86	225	264	67	1.3	≤60	2.5	411	1.6	C400A112687*
			9						1	****
730	116	150	491	81	1.1	≤45	2.1	442	2.0	C400A112737*
			3						7	****
800	96	230	311	74	1.3	≤60	2.2	484	2.0	C400A112807*

				7					8	****
900	136	125	350	60	1.6	≤60	1.9	545	2.2	C400A112907*
				7					8	****
920	116	180	486	83	1.1	≤50	2.0	557	2.4	C400A112927*
				5					2	****
100	136	150	637	91	1.0	≤45	1.7	605	2.8	C400A112108*
0			0						9	****
120	136	180	634	93	1.1	≤50	1.6	726	3.4	C400A112128*
0			5						1	****
125	116	230	487	87	1.2	≤60	1.7	756	2.9	C400A112108*
0			0						8	5***
170	136	230	662	98	1.1	≤60	1.4	102	4.1	C400A112178*
0			4					9	7	****
Metallized Film Capacitor										C410A*
Power Electronic Capacitors										MKP DC-Link

Technical data

C_N (μ F)	D (mm)	H (mm)	\hat{I} (A)	$I_{MAX@45}$ °C @10KHz (A)	ESR(m Ω) @1KHz	ESL (nH)	R_{th} (K/ W)	W_N (J)	W (kg)	Part number
$U_{NDC} DC1200V, U_S 1800V, U_r 275V$										
150	76	95	876	39	2.1	≤50	4.6	108	0.5	C400A122157*
									8	****
200	86	95	116	45	1.9	≤50	3.9	144	0.7	C400A122207*
			8						3	****
220	76	120	946	39	2.4	≤60	4.1	158	0.7	C400A122227*
									0	****
240	76	145	178	56	1.3	≤45	3.7	173	0.8	C400A122247*
			3						8	****
250	86	125	227	61	1.2	≤40	3.4	180	0.9	C400A122257*
			1						9	****
270	86	120	116	44	2.1	≤60	3.5	194	0.8	C400A122277*
			2						9	****
300	76	175	175	57	1.4	≤50	3.3	216	1.0	C400A122307*
			2						4	****
310	86	145	230	62	1.2	≤45	3.2	223	1.1	C400A122317*
			4						2	****
380	116	100	221	60	1.6	≤50	2.6	274	1.3	C400A122387*
			9						8	****
400	76	225	172	69	1.2	≤60	2.9	288	1.3	C400A122407*
			1						0	****
420	86	175	245	64	1.3	≤50	2.9	302	1.3	C400A122427*
			2						1	****

470	86	225	202	64	1.4	≤60	2.5	338	1.6	C400A122477*
			2						6	****
530	136	100	309	60	1.5	≤50	2.1	382	1.9	C400A122537*
			4						0	****
550	116	150	408	80	1.1	≤45	2.1	396	2.1	C400A122557*
			7						0	****
560	86	225	240	66	1.4	≤60	2.5	403	1.6	C400A122567*
			9						1	****
680	116	180	397	82	1.1	≤50	2.0	490	2.4	C400A122687*
			0						8	****
730	136	125	314	60	1.6	≤60	1.9	526	2.2	C400A122737*
			0						8	****
850	136	150	631	91	1.0	≤45	1.7	612	2.8	C400A122857*
			6						6	****
950	136	180	554	93	1.1	≤50	1.6	684	3.4	C400A122957*
			7						4	****
100	116	230	430	86	1.2	≤60	1.7	720	3.0	C400A122108*
0			2						0	****
120	136	230	516	96	1.1	≤60	1.4	864	4.2	C400A122128*
0			2						4	****

U_{NDC} DC2000V, U_S 3000V, U_r 450V

55	76	95	533	35	2.7	≤50	4.6	110	0.5	C400A202556*
									8	****
75	76	120	536	34	3.2	≤60	4.1	150	0.7	C400A202756*
									0	****
85	76	145	104	51	1.5	≤45	3.7	170	0.8	C400A202856*
			9						9	****
90	96	100	872	46	2.2	≤50	3.3	180	0.9	C400A202906*
									6	****
100	86	120	714	40	2.7	≤60	3.5	200	0.8	C400A202107*
									8	****
110	76	175	106	52	1.7	≤50	3.3	220	1.0	C400A202117*
			6						4	****
125	96	125	893	45	2.4	≤60	3.0	250	1.1	C400A202127*
									5	5***
140	116	100	135	56	1.9	≤50	2.6	280	1.3	C400A202147*
			7						8	****
150	86	175	145	60	1.5	≤50	2.9	300	1.2	C400A202157*
			4						9	****
190	116	125	135	56	2.0	≤60	2.3	380	1.6	C400A202197*
			7						6	****
200	86	225	142	60	1.7	≤60	2.5	400	1.6	C400A202207*
			9						1	****

220	116	150	271	77	1.2	≤45	2.1	440	2.0	C400A202227*
			4						6	****
250	96	230	178	68	1.5	≤60	2.2	500	2.0	C400A202257*
			6						6	****
275	136	125	196	60	1.8	≤60	1.9	550	2.2	C400A202277*
			4						6	5****
280	116	180	271	79	1.2	≤50	2.0	560	2.3	C400A202287*
			4						9	****
310	136	150	382	88	1.1	≤45	1.7	620	2.8	C400A202317*
			5						6	****
380	116	230	271	81	1.3	≤60	1.7	760	2.9	C400A202387*
			4						7	****
400	136	180	387	90	1.1	≤50	1.6	800	3.3	C400A202407*
			8						1	****
540	136	230	385	93	1.2	≤60	1.4	108	4.0	C400A202547*
			7					0	9	****

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Technical data

C_N (μF)	D (mm)	H (mm)	\hat{I} (A)	$I_{MAX@45}$ °C @10KHz (A)	ESR(m Ω) @1KHz	ESL (nH)	R_{th} (K/ W)	W_N (J)	W (kg)	Part number
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U_{NDC} DC3000V, U_S 4500V, U_r 700V

35	76	145	667	33	3.8	≤45	3.7	158	0.8	C400A302356*
									8	****
39	76	175	584	31	4.6	≤50	3.3	176	1.0	C400A302396*
									5	****
47	86	145	896	37	3.4	≤45	3.2	212	1.1	C400A302476*
									1	****
60	76	225	662	32	5.0	≤60	2.9	270	1.2	C400A302606*
									9	****
75	96	180	112	42	3.4	≤50	2.5	338	1.6	C400A302756*
			4						5	****
82	86	225	905	38	4.2	≤60	2.5	369	1.6	C400A302826*
									1	****
92	116	150	175	51	2.7	≤45	2.1	414	2.0	C400A302926*
			4						5	****

100	116	180	149	50	3.0	≤50	2.0	450	2.4	C400A302107*
			8						8	****
120	116	180	179	52	2.8	≤50	2.0	540	2.3	C400A302127*
			8						7	****
130	136	150	247	59	2.5	≤45	1.7	585	2.8	C400A302137*
			9						4	****
150	116	230	165	52	3.2	≤60	1.7	675	3.0	C400A302157*
			6						0	****
160	136	180	239	59	2.6	≤50	1.6	720	3.3	C400A302167*
			7						4	****

$U_{NDC} DC3600V, U_S 5400V, U_r 800V$

22	76	145	543	31	4.2	≤45	3.7	143	0.8	C400A362226*
									7	****
28	76	175	543	31	4.8	≤50	3.3	181	1.0	C400A362286*
									2	****
36	96	150	888	40	3.4	≤45	2.7	233	1.4	C400A362366*
									3	****
38	86	175	737	36	4.1	≤50	2.9	246	1.3	C400A362386*
									0	****
46	96	180	892	40	3.7	≤50	2.5	298	1.6	C400A362466*
									6	****
50	86	225	714	35	4.8	≤60	2.5	324	1.6	C400A362506*
									0	****
55	116	150	135	49	2.9	≤45	2.1	356	2.0	C400A362556*
			7						5	****
62	96	230	886	40	4.3	≤60	2.2	402	2.0	C400A362626*
									8	****
70	116	180	135	49	3.1	≤50	2.0	454	2.3	C400A362706*
			7						9	****
75	136	150	185	57	2.7	≤45	1.7	486	2.8	C400A362756*
			1						7	****
88	116	230	125	49	3.6	≤60	1.7	570	3.0	C400A362886*
			7						1	****
100	136	180	193	58	2.8	≤50	1.6	648	3.2	C400A362107*
			9						9	****
125	136	230	178	58	3.1	≤60	1.4	810	4.1	C400A362127*
			6						6	5***

$U_{NDC} DC4000V, U_S 6000V, U_r 900V$

18	76	145	475	30	4.6	≤45	3.7	144	0.8	C400A402186*
									7	****
23	86	145	607	34	4.0	≤45	3.2	184	1.1	C400A402236*
									0	****

30	76	225	458	29	6.4	≤60	2.9	240	1.2	C400A402306*
									8	****
38	96	180	787	39	3.9	≤50	2.5	304	1.6	C400A402386*
									4	****
40	86	225	611	34	5.3	≤60	2.5	320	1.6	C400A402406*
									0	****
45	116	150	118	48	3.0	≤45	2.1	360	2.0	C400A402456*
			7						4	****
50	96	230	763	39	4.6	≤60	2.2	400	2.0	C400A402506*
									5	****
55	116	180	114	48	3.3	≤50	2.0	440	2.4	C400A402556*
			0						0	****
65	136	150	171	56	2.7	≤45	1.7	520	2.8	C400A402656*
			4						1	****
70	116	230	106	47	3.9	≤60	1.7	560	3.0	C400A402706*
			9						2	****
82	136	180	169	57	2.9	≤50	1.6	656	3.2	C400A402826*
			9						8	****
100	136	230	152	56	3.3	≤60	1.4	800	4.1	C400A402107*
			7						6	****

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■ Term and characteristics

Term	Characteristics
C_N	Rated capacitance
U_N	Rated AC voltage
U_{NDC}	Rated DC voltage
U_r	Ripplr voltage
U_s	Non- recurrent surge voltage
U_{T-T}	Test voltage between terminals
U_{T-C}	Test voltage between terminals to case
\hat{i}	Maximum peak cirrent

I_{max}	Maximum current
\hat{I}_s	Maximum surge current
$\tan\delta_0$	Dielectric dissipation factor
$\tan\delta$	Loss factor
ESL	Self inductance
ESR	Equivalent series inductance of a capacitor
R_{ins}	Insulation resistance
f_r	Resonance frequency
W_R	Rated power
θ_{min}	Lowest operating temperature
θ_{max}	Maximum operating temperature
θ_{amb}	Cooling-air temperature
θ_{HS}	Hotspot temperature
θ_{ST}	Storage temperature
F_T	Derating factor
t_{LD}	Inverter and charge hybrid operating load duration
λ	Failure rate (FIT)