

MLC2 Series (Cylindrically-Shaped Metallized Polypropylene Film Capacitors)

Features

- Approx. 15% smaller than MLC series in volume.
- Cylindrically-shaped capacitor with big capacitance for wind & solar power inverters, other inverters, chopper control and charge-discharge.
- High reliability of withstanding voltage due to using of our original segmented metallized film.

Specifications

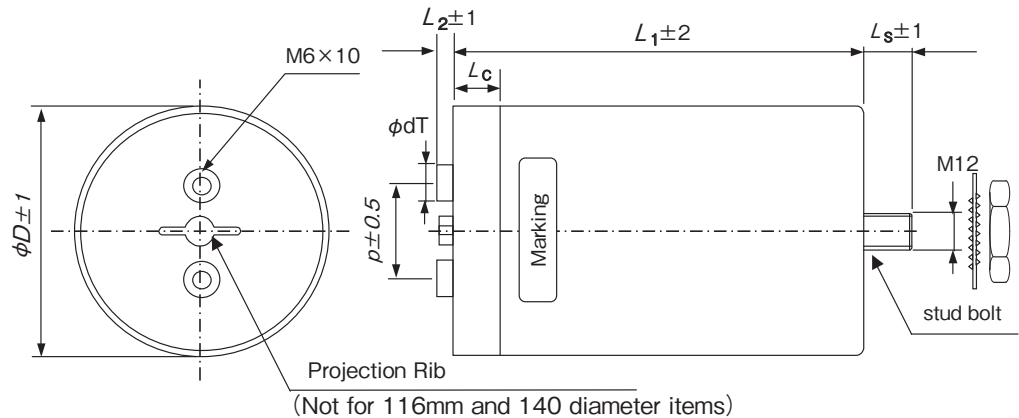
Items	Characteristics
Operating Temperature range *	-40 ~ +85°C at 0.7 U_N
	-40 ~ +80°C at 0.8 U_N
	-40 ~ +75°C at 0.9 U_N
	-40 ~ +70°C at 1.0 U_N
Rated Voltage U_N	800 ~ 900Vdc
Voltage test between terminals U_{TT}	$1.5 \times U_N / 10s$
Voltage test terminals to case U_{TC}	3,200Vac / 10s
Terminals (permitted Torque)	M6 × 10 (4 ±0.5Nm)
Stud Bolt (permitted Torque)	M12 × 16 / 18 (7 ±1Nm)
Life Time Test / Standard	IEC 61071 : 2007
Dielectric	Polypropylene
Electrode	Segmented Metal with Fuse Function
Cap	PBT UL94V-0 listed
impregnants	Epoxy / Urethane Resin UL94V-0 listed
Case material	Aluminium
Humidity	ClassF : 75% annual average, 95% 30days / year

		ϕD				
		$\phi 85$	$\phi 88.5$	$\phi 100$	$\phi 116$	$\phi 140$
Dimensions (mm)	P	32	32	32	50	50
	ϕdT	$\phi 12$	$\phi 12$	$\phi 12$	$\phi 14$	$\phi 19$
	L_2	5	5	5	5	5
	L_c	15	15	15	20	20
	L_s	16	16	16	18	18
Clearance distance (mm)		20	20	20	36	31
Creepage distance (mm)		28	28	28	36	31
Terminal allowance current		60Arms	60Arms	60Arms	80Arms	100Arms

Imax Multiplier (1kHz ~ 10kHz)

		$0.7 \times U_N$	$0.8 \times U_N$	$0.9 \times U_N$	$1.0 \times U_N$
T_a Ambient Temperature	50°C	1.32	1.22	1.11	1.00
	60°C	1.11	1.00	0.86	0.70
	70°C	0.86	0.70	0.50	0.00
	75°C	0.70	0.50		
	80°C	0.50	0.00		
	85°C	0.00			

Outline of drawings and dimensions



Part number

Example : MLC2, 800V, 1200 μF , $\pm 10\%$, $D = \phi 116$, $L = 125$, with stud bolt
MLC2800V128KB116125

MLC2

Type of series

800V

Rated voltage

128

Capacitance code

The first two digits are significant.
The last digit indicates the number of following zeros in PF
(128 : $12 \times 10^8 \mu F$)

K

Tolerance code

J : $\pm 5\%$
K : $\pm 10\%$

B

Fixing symbol code

B : Stud Bolt
N : Plain Bottom

116

Case diameter ϕD

125

Case length L_1

(...)

Customer's Specification

Standard Products Table

Rated d.c voltage U_N : 800Vdc	Max.ripple voltage U_r : 200V Non repetitive surge voltage U_s : 1,200V Voltage test between terminals U_{TT} : 1,200Vdc/10s Voltage test terminals to case. U_{TC} : 3,200Vac/10s								Part number
	Dimensions		Maximum ripple current (Arms) I_{max}^* [Arms / at50°C, 1k ~ 10kHz]	Maximum peak current \hat{i} [kA]	Maximum Surge current I_s [kA]	Equivalent Series Resistance ESR [mΩ]	Equivalent Series Inductance ESL [nH]	Thermal resistance R_{th} [K/W]	
	Diameter ϕD [mm]	Length of the case L_1 [mm]							
300	85	70	31	5	15	2.4	60	8.4	MLC2800V307KB8570
330	85	75	31	5	15	2.6	65	7.8	MLC2800V337KB8575
340	88.5	70	33	6	18	2.2	60	8.1	MLC2800V347KB88570
370	85	80	31	5	15	2.8	65	7.2	MLC2800V377KB8580
	88.5	75	33	6	18	2.4	65	7.5	MLC2800V377KB88575
410	88.5	80	33	6	18	2.6	65	6.9	MLC2800V417KB88580
440	100	70	40	7	21	1.8	60	6.8	MLC2800V447KB10070
450	85	87	31	5	15	3.0	75	6.8	MLC2800V457KB8587
470	88.5	87	33	6	18	2.8	75	6.4	MLC2800V477KB88587
480	85	95	30	5	15	3.4	80	6.4	MLC2800V487KB8595
490	100	75	40	7	21	1.9	65	6.4	MLC2800V497KB10075
530	88.5	95	32	6	18	3.1	80	6.1	MLC2800V537KB88595
540	85	106	30	5	15	3.9	90	5.6	MLC2800V547KB85106
	100	80	39	7	21	2.1	65	6.1	MLC2800V547KB10080
600	88.5	106	31	6	18	3.6	90	5.6	MLC2800V607KB885106
610	85	125	57	10	30	1.2	40	5.0	MLC2800V617KB85125
	100	87	39	7	21	2.3	75	5.6	MLC2800V617KB10087
620	116	70	47	10	30	1.5	60	5.9	MLC2800V627KB11670
630	85	120	29	5	15	4.6	100	5.1	MLC2800V637KB85120
670	85	135	57	10	30	1.3	40	4.6	MLC2800V677KB85135
680	88.5	125	62	11	33	1.1	40	4.6	MLC2800V687KB885125
	116	75	47	10	30	1.6	65	5.5	MLC2800V687KB11675
690	100	95	39	7	21	2.6	80	4.9	MLC2800V697KB10095
700	88.5	120	31	6	18	4.2	100	4.9	MLC2800V707KB885120
750	85	145	57	10	30	1.4	45	4.3	MLC2800V757KB85145
760	88.5	135	62	11	33	1.2	40	4.2	MLC2800V767KB885135
780	116	80	46	10	30	1.7	65	5.4	MLC2800V787KB11680
780	100	106	38	7	21	3.0	90	4.5	MLC2800V787KB100106
830	88.5	145	61	11	33	1.3	45	4.1	MLC2800V837KB885145
840	85	159	57	10	30	1.6	50	3.8	MLC2800V847KB85159
850	116	87	46	10	30	1.9	75	4.9	MLC2800V857KB11687
890	100	125	71	15	45	1.0	40	3.9	MLC2800V897KB100125
920	100	120	37	7	21	3.4	100	4.2	MLC2800V927KB100120
930	140	70	49	15	45	1.2	60	6.8	MLC2800V937KB14070
940	88.5	159	61	12	36	1.5	50	3.5	MLC2800V947KB885159
960	85	175	56	10	30	1.8	55	3.5	MLC2800V967KB85175
970	116	95	45	10	30	2.1	80	4.6	MLC2800V977KB11695
980	100	135	71	15	45	1.0	40	3.9	MLC2800V987KB100135
1,000	85	197	54	10	30	2.2	60	3.1	MLC2800V108KB85197
	88.5	175	59	11	33	1.7	55	3.3	MLC2800V108KB885175
	100	145	69	14	42	1.2	45	3.4	MLC2800V108KB100145
	116	106	44	10	30	2.5	90	4.0	MLC2800V108KB116106
	140	75	49	15	45	1.3	65	6.2	MLC2800V108KB14075
1,100	140	80	49	15	45	1.4	65	5.8	MLC2800V118KB14080
1,200	85	225	54	10	30	2.5	70	2.7	MLC2800V128KB85225
	88.5	197	60	12	36	1.9	60	2.9	MLC2800V128KB885197
	100	159	70	15	45	1.2	50	3.3	MLC2800V128KB100159
	116	120	43	10	30	2.8	100	3.8	MLC2800V128KB116120
	116	125	83	20	60	0.8	40	3.6	MLC2800V128KB116125
1,300	140	87	48	15	45	1.5	75	5.6	MLC2800V128KB14087
	100	175	69	14	42	1.4	55	3.0	MLC2800V138KB100175
	116	135	83	20	60	0.9	40	3.2	MLC2800V138KB116135
1,400	88.5	225	59	11	33	2.2	70	2.6	MLC2800V148KB885225
	140	95	48	15	45	1.7	80	5.0	MLC2800V148KB14095
1,500	100	197	68	14	42	1.6	60	2.7	MLC2800V158KB100197
1,600	116	145	83	20	60	0.9	45	3.2	MLC2800V158KB116145
1,600	140	106	47	15	45	1.9	90	4.7	MLC2800V168KB140106
1,700	116	159	83	21	63	1.0	50	2.9	MLC2800V178KB116159
1,800	100	225	68	15	45	1.8	70	2.4	MLC2800V188KB100225
	140	125	86	30	90	0.7	40	3.8	MLC2800V188KB140125
1,900	116	175	83	20	60	1.1	55	2.6	MLC2800V198KB116175
	140	120	47	15	45	2.1	100	4.2	MLC2800V198KB140120
2,000	140	135	86	30	90	0.7	40	3.8	MLC2800V208KB140135
2,100	116	197	80	20	60	1.3	60	2.4	MLC2800V218KB116197
2,300	140	145	87	31	93	0.8	45	3.2	MLC2800V238KB140145
2,500	116	225	80	20	60	1.5	70	2.1	MLC2800V258KB116225
	140	159	86	30	90	0.8	50	3.3	MLC2800V258KB140159
2,900	140	175	86	31	93	0.9	55	3.0	MLC2800V298KB140175
3,300	140	197	86	31	93	1.0	60	2.7	MLC2800V338KB140197
3,800	140	225	85	30	90	1.2	70	2.3	MLC2800V388KB140225

PLASTIC FILM CAPACITORS

* • Please inquire us in case low frequency (commercial frequency) or frequency above 10kHz is included in ripple current.
 • Maximum permissible ripple current is calculated by the value in this table with frequency and temperature correction factors.
 Also the maximum current must be controlled below the permissible terminal current .
 Please refer useful life graph based on ambient temperature and voltage.

$$\theta_{HOTSPOT} = T_a + I^2 \times ESR \times R_{th}$$

POWER ELECTRONICS USE PLASTIC FILM CAPACITORS

Standard Products Table

Rated d.c voltage $U_N : 900Vdc$	Max.ripple voltage $U_r : 200V$ Non repetitive surge voltage $U_s : 1,350V$ Voltage test between terminals $U_{TT} : 1,350Vdc/10s$ Voltage test terminals to case. $U_{TC} : 3,200Vac/10s$									
	Nominal Capacitance C_N [μF]	Dimensions		Maximum ripple current (Arms) I_{max}^* [Arms / at50°C, 1k ~ 10kHz]	Maximum peak current \hat{i} [kA]	Maximum Surge current I_s [kA]	Equivalent Series Resistance ESR [m Ω]	Equivalent Series Inductance ESL [nH]	Thermal resistance R_{th} [K/W]	Part number
	Diameter ϕD [mm]	Length of the case L_1 [mm]								
230	85	70	30	4	12	2.6	60	8.3	MLC2900V237KB8570	
250	85	75	29	4	12	2.9	65	8.0	MLC2900V257KB8575	
	88.5	70	31	5	15	2.5	60	8.1	MLC2900V257KB88570	
280	85	80	29	4	12	3.1	65	7.5	MLC2900V287KB8580	
	88.5	75	31	5	15	2.6	65	7.8	MLC2900V287KB88575	
310	88.5	80	31	5	15	2.9	65	7.0	MLC2900V317KB88580	
320	85	87	29	5	15	3.4	75	6.8	MLC2900V327KB8587	
350	88.5	87	31	5	15	3.2	75	6.3	MLC2900V357KB88587	
	100	70	39	7	21	2.0	60	6.5	MLC2900V357KB10070	
360	85	95	28	4	12	3.8	80	6.5	MLC2900V367KB8595	
390	100	75	38	7	21	2.1	65	6.4	MLC2900V397KB10075	
400	88.5	95	30	5	15	3.5	80	6.2	MLC2900V407KB88595	
410	85	106	28	5	15	4.4	90	5.7	MLC2900V417KB85106	
430	100	80	38	7	21	2.3	65	6.0	MLC2900V437KB10080	
450	88.5	106	30	5	15	4.1	90	5.3	MLC2900V457KB885106	
460	85	125	55	9	27	1.4	40	4.6	MLC2900V467KB85125	
	100	87	37	7	21	2.6	75	5.6	MLC2900V477KB10087	
470	116	70	45	9	27	1.6	60	6.0	MLC2900V477KB11670	
	85	120	27	4	12	5.1	100	5.3	MLC2900V487KB85120	
510	85	135	55	9	27	1.5	40	4.3	MLC2900V517KB85135	
	88.5	125	59	10	30	1.3	40	4.3	MLC2900V517KB885125	
	116	75	45	9	27	1.7	65	5.7	MLC2900V517KB11675	
530	88.5	120	29	5	15	4.7	100	4.9	MLC2900V537KB885120	
540	100	95	37	7	21	2.8	80	5.1	MLC2900V547KB10095	
570	85	145	54	9	27	1.6	45	4.2	MLC2900V577KB85145	
	88.5	135	59	10	30	1.4	40	4.0	MLC2900V577KB885135	
	116	80	44	9	27	1.9	65	5.3	MLC2900V577KB11680	
590	100	106	36	6	18	3.3	90	4.6	MLC2900V597KB100106	
630	88.5	145	57	10	30	1.5	45	4.0	MLC2900V637KB885145	
640	85	159	54	9	27	1.8	50	3.7	MLC2900V647KB85159	
650	116	87	44	9	27	2.0	75	5.0	MLC2900V657KB11687	
690	100	120	34	6	18	3.8	100	4.4	MLC2900V697KB100120	
	100	125	69	13	39	1.0	40	4.0	MLC2900V697KB100125	
710	88.5	159	57	10	30	1.6	50	3.8	MLC2900V717KB885159	
	140	70	48	14	42	1.3	60	6.5	MLC2900V717KB14070	
730	85	175	54	9	27	2.0	55	3.4	MLC2900V737KB85175	
	116	95	43	9	27	2.3	80	4.6	MLC2900V737KB11695	
780	100	135	69	13	39	1.1	40	3.7	MLC2900V787KB100135	
	140	75	48	14	42	1.4	65	6.0	MLC2900V787KB14075	
810	88.5	175	57	10	30	1.8	55	3.4	MLC2900V817KB885175	
820	85	197	53	9	27	2.3	60	3.0	MLC2900V827KB85197	
830	116	106	43	9	27	2.6	90	4.1	MLC2900V837KB116106	
860	100	145	68	13	39	1.2	45	3.5	MLC2900V867KB100145	
870	140	80	47	14	42	1.5	65	5.9	MLC2900V877KB14080	
910	88.5	197	56	10	30	2.1	60	3.0	MLC2900V917KB885197	
930	100	159	68	13	39	1.4	50	3.0	MLC2900V937KB100159	
940	116	125	80	18	54	0.9	40	3.4	MLC2900V947KB116125	
960	85	225	52	9	27	2.7	70	2.7	MLC2900V967KB85225	
970	116	120	42	9	27	3.0	100	3.7	MLC2900V977KB116120	
980	140	87	47	14	42	1.6	75	5.5	MLC2900V987KB14087	
	88.5	225	54	9	27	2.6	70	2.6	MLC2900V108KB885225	
1,000	100	175	66	12	36	1.6	55	2.8	MLC2900V108KB100175	
	116	135	79	17	51	0.9	40	3.5	MLC2900V108KB116135	
	100	197	64	13	39	1.8	60	2.7	MLC2900V118KB100197	
1,100	116	145	78	17	51	1.0	45	3.2	MLC2900V118KB116145	
	140	95	46	13	39	1.8	80	5.1	MLC2900V118KB14095	
1,200	140	106	45	13	39	2.0	90	4.8	MLC2900V128KB140106	
1,300	116	159	79	18	54	1.1	50	2.9	MLC2900V138KB116159	
	100	225	66	13	39	2.0	70	2.3	MLC2900V148KB100225	
1,400	116	175	78	17	51	1.3	55	2.5	MLC2900V148KB116175	
	140	120	45	13	39	2.4	100	4.0	MLC2900V148KB140120	
	140	125	84	27	81	0.7	40	4.0	MLC2900V148KB140125	
1,500	140	135	83	26	78	0.8	40	3.6	MLC2900V158KB140135	
1,600	116	197	77	17	51	1.4	60	2.4	MLC2900V168KB116197	
1,700	140	145	83	26	78	0.8	45	3.6	MLC2900V178KB140145	
1,900	116	225	77	18	54	1.6	70	2.1	MLC2900V198KB116225	
	140	159	84	26	78	0.9	50	3.1	MLC2900V198KB140159	
2,200	140	175	84	27	81	1.0	55	2.8	MLC2900V228KB140175	
2,500	140	197	83	27	81	1.1	60	2.6	MLC2900V258KB140197	
2,900	140	225	81	27	81	1.3	70	2.3	MLC2900V298KB140225	

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