

UPGRADE!

MLC Series (Cylindrically-Shaped Metallized Polypropylene Film Capacitors)

Features

- 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.
- UL 810 standard option compliant. (Series : MLCU)

Specifications

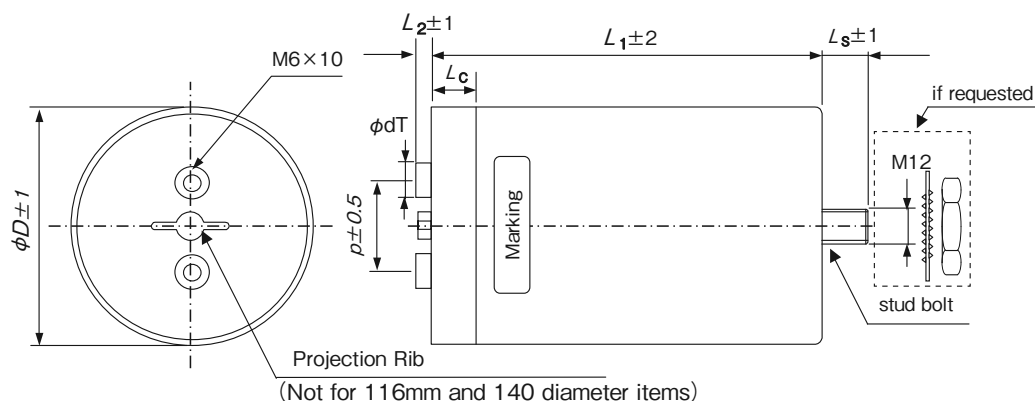
Items	Characteristics
Operating Temperature range *	-40 ~ +85°C at 0.7 U_N
	-40 ~ +80°C at 0.8 U_N
	-40 ~ +75°C at 0.9 U_N
	-40 ~ +70°C at 1.0 U_N
Rated Voltage U_N	900 ~ 1,500Vdc
Voltage test between terminals U_{TT}	$1.5 \times U_N / 10s$
Voltage test terminals to case U_{TC}	3,200Vac / 10s
Terminals (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
	ϕd_T	$\phi 12$	$\phi 12$	$\phi 12$	$\phi 14$	$\phi 19$
	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

I_{Max} 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	1.3	1.2	1.1	1.0
	60°C	1.1	1.0	0.9	0.7
	70°C	0.9	0.7	0.5	0.0
	75°C	0.7	0.5	0.0	
	80°C	0.5	0.0		
	85°C	0.0			

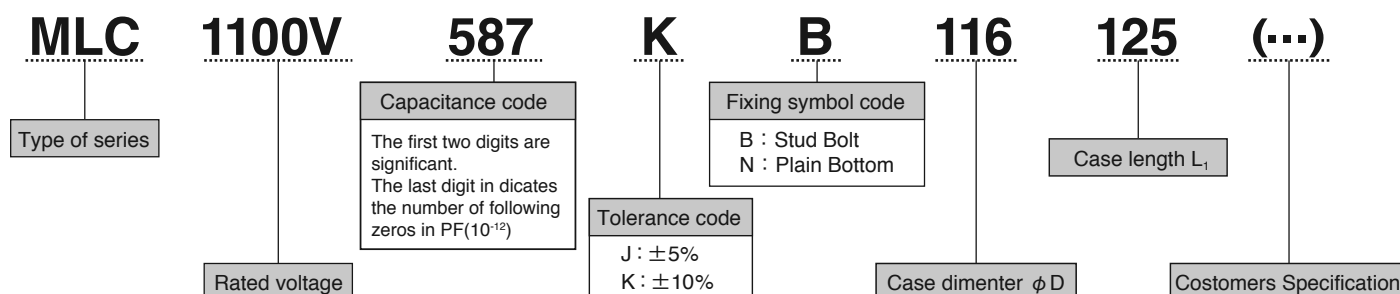
Outline of drawings and dimensions



Part number

Example : MLC, 1100V, 580 μF , ±10%, D = $\phi 116$, L = 125, with stud bolt

MLC1100V587KB116125



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_{Tr} : 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 I^{\wedge} (kA)	Maximum Surge current I_s (kA)	Charge energy W (J)	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)	Remarks								
180	85	70	Standard size	28	4	12	73	2.9	60	8.4	MLC900V187KB8570
200	85	75		28	4	12	81	3.1	65	7.9	MLC900V207KB8575
210	88.5	70	Standard size	31	5	15	85	2.6	60	7.8	MLC900V217KB88570
230	88.5	75		30	5	15	93	2.8	65	7.7	MLC900V237KB88575
	85	80		28	4	12	93	3.3	65	7.4	MLC900V237KB8580
250	88.5	80		30	4	12	101	3.1	65	7.0	MLC900V257KB88580
260	85	87		28	4	12	105	3.7	75	6.8	MLC900V267KB8587
270	100	70	Standard size	37	6	18	109	2.2	60	6.5	MLC900V277KB10070
280	88.5	87		28	4	12	113	3.4	75	6.8	MLC900V287KB88587
290	85	95	Standard size	27	4	12	117	4.1	80	6.4	MLC900V297KB8595
300	100	75		37	6	18	122	2.3	65	6.1	MLC900V307KB10075
320	88.5	95	Standard size	29	4	12	130	3.8	80	6.1	MLC900V327KB88595
330	100	80		36	6	18	134	2.5	65	5.9	MLC900V337KB10080
	85	106		27	4	12	134	4.8	90	5.6	MLC900V337KB85106
360	88.5	106		28	4	12	146	4.4	90	5.7	MLC900V367KB885106
370	100	87		36	6	18	150	2.8	75	5.4	MLC900V377KB10087
	85	125	Standard size	52	8	24	150	1.5	40	4.8	MLC900V377KB85125
380	116	70	Standard size	43	8	24	154	1.7	60	6.0	MLC900V387KB11670
390	85	120		26	4	12	158	5.5	100	5.2	MLC900V397KB85120
410	116	75		43	8	24	166	1.9	65	5.6	MLC900V417KB11675
	85	135		52	8	24	166	1.6	40	4.5	MLC900V417KB85135
420	88.5	125	Standard size	56	9	27	170	1.4	40	4.5	MLC900V427KB885125
	100	95	Standard size	34	6	18	170	3.1	80	5.4	MLC900V427KB10095
430	88.5	120		28	5	15	174	5.1	100	4.9	MLC900V437KB885120
460	88.5	135		56	9	27	186	1.5	40	4.2	MLC900V467KB885135
	116	80		43	8	24	186	2.0	65	5.2	MLC900V467KB11680
	85	145		52	8	24	186	1.7	45	4.1	MLC900V467KB85145
480	100	106		34	6	18	194	3.5	90	4.7	MLC900V487KB100106
510	88.5	145		55	9	27	207	1.6	45	4.0	MLC900V517KB885145
520	116	87		42	8	24	211	2.2	75	5.0	MLC900V527KB11687
	85	159		52	8	24	211	1.9	50	3.8	MLC900V527KB85159
540	100	125	Standard size	60	12	36	219	1.1	40	3.9	MLC900V547KB100125
560	100	120		33	6	18	227	4.1	100	4.3	MLC900V567KB100120
570	88.5	159		55	9	27	231	1.8	50	3.6	MLC900V577KB885159
	140	70	Standard size	46	12	36	231	1.4	60	6.6	MLC900V577KB14070
590	116	95	Standard size	42	8	24	239	2.4	80	4.5	MLC900V597KB11695
	85	175	Standard size	52	8	24	239	2.1	55	3.4	MLC900V597KB85175
600	100	135		60	12	36	243	1.2	40	3.6	MLC900V607KB100135
630	140	75		46	12	36	255	1.4	65	6.6	MLC900V637KB14075
650	88.5	175	Standard size	55	9	27	263	2.0	55	3.2	MLC900V657KB885175
660	116	106		41	8	24	267	2.8	90	4.2	MLC900V667KB116106
	85	197		51	8	24	267	2.5	60	3.0	MLC900V667KB85197
670	100	145		60	12	36	271	1.3	45	3.5	MLC900V677KB100145
700	140	80		46	12	36	284	1.6	65	5.8	MLC900V707KB14080
730	88.5	197		54	9	27	296	2.3	60	2.9	MLC900V737KB885197
750	100	159		60	12	36	304	1.5	50	3.2	MLC900V757KB100159
760	116	125	Standard size	77	16	48	308	0.9	40	3.5	MLC900V767KB116125
780	116	120		41	8	24	316	3.2	100	3.6	MLC900V787KB116120
	140	87		46	12	36	316	1.7	75	5.4	MLC900V787KB14087
	85	225		50	8	24	316	2.9	70	2.7	MLC900V787KB85225
830	116	135		77	16	48	336	1.0	40	3.3	MLC900V837KB116135
850	100	175	Standard size	60	12	36	344	1.6	55	2.8	MLC900V857KB100175
870	88.5	225		54	9	27	352	2.6	70	2.6	MLC900V877KB885225
890	140	95	Standard size	45	12	36	360	1.9	80	5.1	MLC900V897KB14095
930	116	145		77	16	48	377	1.1	45	3.1	MLC900V937KB116145
960	100	197		60	12	36	389	1.9	60	2.5	MLC900V967KB100197
1,000	116	159		76	16	48	405	1.2	50	2.8	MLC900V108KB116159
	140	106		44	12	36	405	2.1	90	4.8	MLC900V108KB140106
1,100	100	225		60	11	33	446	2.2	70	2.2	MLC900V118KB100225
	116	175	Standard size	75	15	45	446	1.4	55	2.5	MLC900V118KB116175
	140	120		43	11	33	446	2.5	100	4.2	MLC900V118KB140120
	140	125	Standard size	80	24	72	446	0.8	40	3.8	MLC900V118KB140125
1,200	140	135		80	23	69	486	0.8	40	3.8	MLC900V128KB140135
1,300	116	197		75	16	48	527	1.5	60	2.3	MLC900V138KB116197
1,400	140	145		81	24	72	567	0.8	45	3.7	MLC900V148KB140145
1,500	116	225		74	16	48	608	1.8	70	2.0	MLC900V158KB116225
	140	159		80	23	69	608	0.9	50	3.4	MLC900V158KB140159
1,700	140	175	Standard size	79	23	69	689	1.0	55	3.2	MLC900V178KB140175
2,000	140	197		80	24	72	810	1.2	60	2.6	MLC900V208KB140197
2,300	140	225		79	24	72	932	1.3	70	2.3	MLC900V238KB140225

- * 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 : 1,100Vdc Max.ripple voltage U_r : 250V Non repetitive surge voltage U_s : 1,650V Voltage test between terminals U_{TT} : 1,650Vdc/10s Voltage test terminals to case. U_{TC} : 3,200Vac/10s											
Nominal Capacitance C_N [μ F]	Dimensions			Maximum ripple current (Arms) I_{max}^* [Arms/at50°C, 1k ~ 10kHz]	Maximum peak current I^{\wedge} [kA]	Maximum Surge current I_s [kA]	Charge energy W [J]	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]	Remarks								
140	85	70	Standard size	26	3	9	85	3.3	60	8.6	MLC1100V147KB8570
160	85	75		27	4	12	97	3.5	65	7.6	MLC1100V167KB8575
170	88.5	70	Standard size	29	4	12	103	2.8	60	8.3	MLC1100V177KB88570
180	85	80		27	4	12	109	3.7	65	7.1	MLC1100V187KB8580
	88.5	75		29	4	12	109	3.1	65	7.5	MLC1100V187KB88575
200	85	87		26	4	12	121	4.2	75	6.9	MLC1100V207KB8587
	88.5	80		28	4	12	121	3.4	65	7.3	MLC1100V207KB88580
210	100	70	Standard size	34	5	15	127	2.4	60	6.9	MLC1100V217KB10070
230	85	95	Standard size	26	4	12	139	4.6	80	6.2	MLC1100V237KB8595
	88.5	87		28	4	12	139	3.7	75	6.7	MLC1100V237KB88587
	100	75		34	5	15	139	2.6	65	6.4	MLC1100V237KB10075
260	85	106		25	4	12	157	5.3	90	5.8	MLC1100V267KB85106
	88.5	95	Standard size	28	4	12	157	4.1	80	6.1	MLC1100V267KB88595
	100	80		33	5	15	157	2.8	65	6.3	MLC1100V267KB10080
290	85	125	Standard size	50	7	21	175	1.7	40	4.7	MLC1100V297KB85125
	88.5	106		27	4	12	175	4.8	90	5.6	MLC1100V297KB885106
	100	87		33	5	15	175	3.1	75	5.8	MLC1100V297KB10087
	116	70	Standard size	41	7	21	175	1.9	60	6.0	MLC1100V297KB11670
310	85	120		25	4	12	188	6.1	100	5.1	MLC1100V317KB85120
320	85	135		50	7	21	194	1.8	40	4.3	MLC1100V327KB85135
	116	75		41	7	21	194	2.1	65	5.6	MLC1100V327KB11675
330	88.5	125	Standard size	53	8	24	200	1.5	40	4.6	MLC1100V337KB885125
	100	95	Standard size	33	5	15	200	3.4	80	5.2	MLC1100V337KB10095
350	88.5	120		27	4	12	212	5.5	100	4.9	MLC1100V357KB885120
360	85	145		49	7	21	218	1.9	45	4.2	MLC1100V367KB85145
	116	80		41	7	21	218	2.2	65	5.2	MLC1100V367KB11680
370	88.5	135		54	8	24	224	1.6	40	4.2	MLC1100V377KB885135
380	100	106		32	5	15	230	3.9	90	4.8	MLC1100V387KB100106
400	85	159		49	7	21	242	2.2	50	3.7	MLC1100V407KB85159
	116	87		40	7	21	242	2.4	75	5.0	MLC1100V407KB11687
410	88.5	145		53	8	24	248	1.7	45	4.1	MLC1100V417KB885145
440	100	125	Standard size	60	10	30	266	1.2	40	3.9	MLC1100V447KB100125
450	100	120		32	5	15	272	4.5	100	4.2	MLC1100V457KB100120
460	85	175	Standard size	49	7	21	278	2.4	55	3.4	MLC1100V467KB85175
	88.5	159		53	8	24	278	1.9	50	3.7	MLC1100V467KB885159
	116	95	Standard size	40	7	21	278	2.7	80	4.5	MLC1100V467KB11695
	140	70	Standard size	45	11	33	278	1.4	60	6.9	MLC1100V467KB14070
470	100	135		60	10	30	284	1.4	40	3.6	MLC1100V477KB100135
500	140	75		45	11	33	303	1.6	65	6.0	MLC1100V507KB14075
520	100	145		60	10	30	315	1.5	45	3.4	MLC1100V527KB100145
530	85	197		48	7	21	321	2.7	60	3.1	MLC1100V537KB85197
	88.5	175	Standard size	53	8	24	321	2.1	55	3.3	MLC1100V537KB885175
	116	106		40	7	21	321	3.0	90	4.0	MLC1100V537KB116106
560	140	80		44	11	33	339	1.7	65	5.9	MLC1100V567KB14080
580	100	159		60	10	30	351	1.6	50	3.1	MLC1100V587KB100159
	116	125	Standard size	73	14	42	351	1.0	40	3.6	MLC1100V587KB116125
590	88.5	197		52	8	24	357	2.5	60	2.9	MLC1100V597KB885197
620	85	225		48	7	21	375	3.2	70	2.7	MLC1100V627KB85225
	116	120		39	7	21	375	3.5	100	3.6	MLC1100V627KB116120
630	140	87		44	11	33	381	1.8	75	5.6	MLC1100V637KB14087
650	116	135		74	14	42	393	1.1	40	3.3	MLC1100V657KB116135
690	100	175	Standard size	60	10	30	417	1.7	55	2.9	MLC1100V697KB100175
700	88.5	225		51	8	24	424	2.9	70	2.6	MLC1100V707KB885225
720	116	145		74	14	42	436	1.2	45	3.0	MLC1100V727KB116145
	140	95	Standard size	44	11	33	436	2.0	80	5.0	MLC1100V727KB14095
760	100	197		60	10	30	460	2.0	60	2.5	MLC1100V767KB100197
810	116	159		73	14	42	490	1.3	50	2.8	MLC1100V817KB116159
	140	106		43	11	33	490	2.3	90	4.6	MLC1100V817KB140106
900	100	225		60	10	30	545	2.4	70	2.2	MLC1100V907KB100225
920	116	175	Standard size	73	14	42	557	1.4	55	2.6	MLC1100V927KB116175
	140	125	Standard size	79	22	66	557	0.8	40	3.9	MLC1100V927KB140125
950	140	120		43	11	33	575	2.6	100	4.1	MLC1100V957KB140120
1,000	140	135		79	22	66	605	0.8	40	3.9	MLC1100V108KB140135
	116	197		71	14	42	605	1.7	60	2.3	MLC1100V108KB116197
1,100	140	145		78	22	66	666	0.9	45	3.6	MLC1100V118KB140145
1,200	140	159		77	21	63	726	1.0	50	3.3	MLC1100V128KB140159
	116	225		71	14	42	726	1.9	70	2.0	MLC1100V128KB116225
1,400	140	175	Standard size	78	21	63	847	1.1	55	2.9	MLC1100V148KB140175
1,600	140	197		77	22	66	968	1.2	60	2.8	MLC1100V168KB140197
1,900	140	225		77	22	66	1,150	1.4	70	2.4	MLC1100V198KB140225

- * • 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 $U_N : 1,300Vdc$ Max.ripple voltage $U_r : 300V$ Non repetitive surge voltage $U_s : 1,950V$ Voltage test between terminals $U_{TT} : 1,950Vdc/10s$ 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 I^{\wedge} [kA]	Maximum Surge current I_s [kA]	Charge energy W [J]	Equivalent Series Resistance ESR [mΩ]	Equivalent Series Inductance ESL [nH]	Thermal resistance R_{th} [K/W]	Part number
	Diameter ϕD [mm]	Length of the case L_1 [mm]	Remarks								
100	85	70	Standard size	25	3	9	85	3.8	60	8.1	MLC1300V107KB8570
110	85	75		25	3	9	93	4.1	65	7.6	MLC1300V117KB8575
	88.5	70	Standard size	26	3	9	93	3.5	60	8.2	MLC1300V117KB88570
120	88.5	75		26	3	9	101	3.8	65	7.6	MLC1300V127KB88575
130	85	80		25	3	9	110	4.2	65	7.3	MLC1300V137KB8580
140	85	87		24	3	9	118	4.8	75	7.0	MLC1300V147KB8587
	88.5	80		26	3	9	118	4.0	65	7.2	MLC1300V147KB88580
150	100	70	Standard size	32	4	12	127	2.7	60	6.9	MLC1300V157KB10070
160	85	95	Standard size	24	3	9	135	5.4	80	6.3	MLC1300V167KB8595
	88.5	87		26	3	9	135	4.3	75	6.7	MLC1300V167KB88587
170	100	75		32	4	12	144	2.9	65	6.5	MLC1300V177KB10075
180	88.5	95	Standard size	26	3	9	152	4.8	80	6.0	MLC1300V187KB88595
	100	80		31	4	12	152	3.3	65	6.2	MLC1300V187KB10080
190	85	106		24	3	9	161	6.0	90	5.6	MLC1300V197KB85106
200	88.5	106		25	3	9	169	5.7	90	5.5	MLC1300V207KB885106
210	85	125	Standard size	47	6	18	177	1.9	40	4.7	MLC1300V217KB85125
	100	87		31	4	12	177	3.5	75	5.8	MLC1300V217KB10087
	116	70	Standard size	39	6	18	177	2.1	60	5.9	MLC1300V217KB11670
220	85	120		23	3	9	186	7.0	100	5.2	MLC1300V227KB85120
230	85	135		47	6	18	194	2.0	40	4.3	MLC1300V237KB85135
	88.5	125	Standard size	50	7	21	194	1.7	40	4.6	MLC1300V237KB885125
	116	75		39	6	18	194	2.3	65	5.5	MLC1300V237KB11675
240	88.5	120		25	3	9	203	6.5	100	4.8	MLC1300V247KB885120
	100	95	Standard size	31	4	12	203	3.8	80	5.2	MLC1300V247KB10095
250	88.5	135		49	7	21	211	1.9	40	4.3	MLC1300V257KB885135
260	85	145		47	6	18	220	2.2	45	4.0	MLC1300V267KB85145
	116	80		39	6	18	220	2.5	65	5.2	MLC1300V267KB11680
270	100	106		30	4	12	228	4.4	90	4.8	MLC1300V277KB100106
280	88.5	145		49	7	21	237	2.0	45	4.1	MLC1300V287KB885145
290	85	159		46	6	18	245	2.4	50	3.8	MLC1300V297KB85159
	116	87		38	6	18	245	2.7	75	4.9	MLC1300V297KB11687
300	100	125	Standard size	59	9	27	254	1.4	40	3.9	MLC1300V307KB100125
310	140	70	Standard size	42	9	27	262	1.7	60	6.5	MLC1300V317KB14070
320	88.5	159		49	7	21	270	2.2	50	3.7	MLC1300V327KB885159
	100	120		30	4	12	270	5.1	100	4.2	MLC1300V327KB100120
330	85	175	Standard size	46	6	18	279	2.7	55	3.4	MLC1300V337KB85175
	100	135		59	9	27	279	1.5	40	3.6	MLC1300V337KB100135
	116	95	Standard size	38	6	18	279	3.0	80	4.5	MLC1300V337KB11695
350	140	75		43	9	27	296	1.7	65	6.2	MLC1300V357KB14075
360	88.5	175	Standard size	49	7	21	304	2.5	55	3.3	MLC1300V367KB885175
370	100	145		59	9	27	313	1.7	45	3.3	MLC1300V377KB100145
380	85	197		46	6	18	321	3.1	60	3.0	MLC1300V387KB85197
	116	106		38	6	18	321	3.4	90	3.9	MLC1300V387KB116106
	140	80		42	9	27	321	1.9	65	5.8	MLC1300V387KB14080
410	88.5	197		48	7	21	346	2.9	60	2.9	MLC1300V417KB885197
420	100	159		59	9	27	355	1.8	50	3.1	MLC1300V427KB100159
	116	125	Standard size	70	12	36	355	1.1	40	3.5	MLC1300V427KB116125
430	140	87		42	9	27	363	2.1	75	5.3	MLC1300V437KB14087
450	85	225		45	6	18	380	3.5	70	2.7	MLC1300V457KB85225
	116	120		37	6	18	380	3.9	100	3.6	MLC1300V457KB116120
460	116	135		70	12	36	389	1.2	40	3.3	MLC1300V467KB116135
470	100	175	Standard size	57	9	27	397	2.0	55	2.9	MLC1300V477KB100175
480	88.5	225		47	7	21	406	3.3	70	2.7	MLC1300V487KB885225
490	140	95	Standard size	41	9	27	414	2.3	80	5.1	MLC1300V497KB14095
520	116	145		70	12	36	439	1.3	45	3.0	MLC1300V527KB116145
	100	197		57	9	27	465	2.3	60	2.6	MLC1300V557KB100197
550	140	106		40	9	27	465	2.6	90	4.7	MLC1300V557KB140106
	116	159		70	12	36	490	1.4	50	2.8	MLC1300V587KB116159
630	140	125	Standard size	75	18	54	532	0.9	40	3.9	MLC1300V637KB140125
650	100	225		57	9	27	549	2.6	70	2.3	MLC1300V657KB100225
	140	120		40	9	27	549	3.0	100	4.1	MLC1300V657KB140120
660	116	175	Standard size	69	12	36	558	1.6	55	2.6	MLC1300V667KB116175
700	140	135		75	18	54	592	0.9	40	3.9	MLC1300V707KB140135
760	116	197		69	12	36	642	1.8	60	2.3	MLC1300V767KB116197
770	140	145		74	18	54	651	1.0	45	3.6	MLC1300V777KB140145
870	140	159		74	18	54	735	1.1	50	3.3	MLC1300V877KB140159
900	116	225		69	13	39	761	2.1	70	2.0	MLC1300V907KB116225
990	140	175	Standard size	74	18	54	837	1.2	55	3.0	MLC1300V997KB140175
1,100	140	197		73	18	54	930	1.4	60	2.6	MLC1300V118KB140197
1,300	140	225		72	18	54	1,099	1.6	70	2.4	MLC1300V138KB140225

- * 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

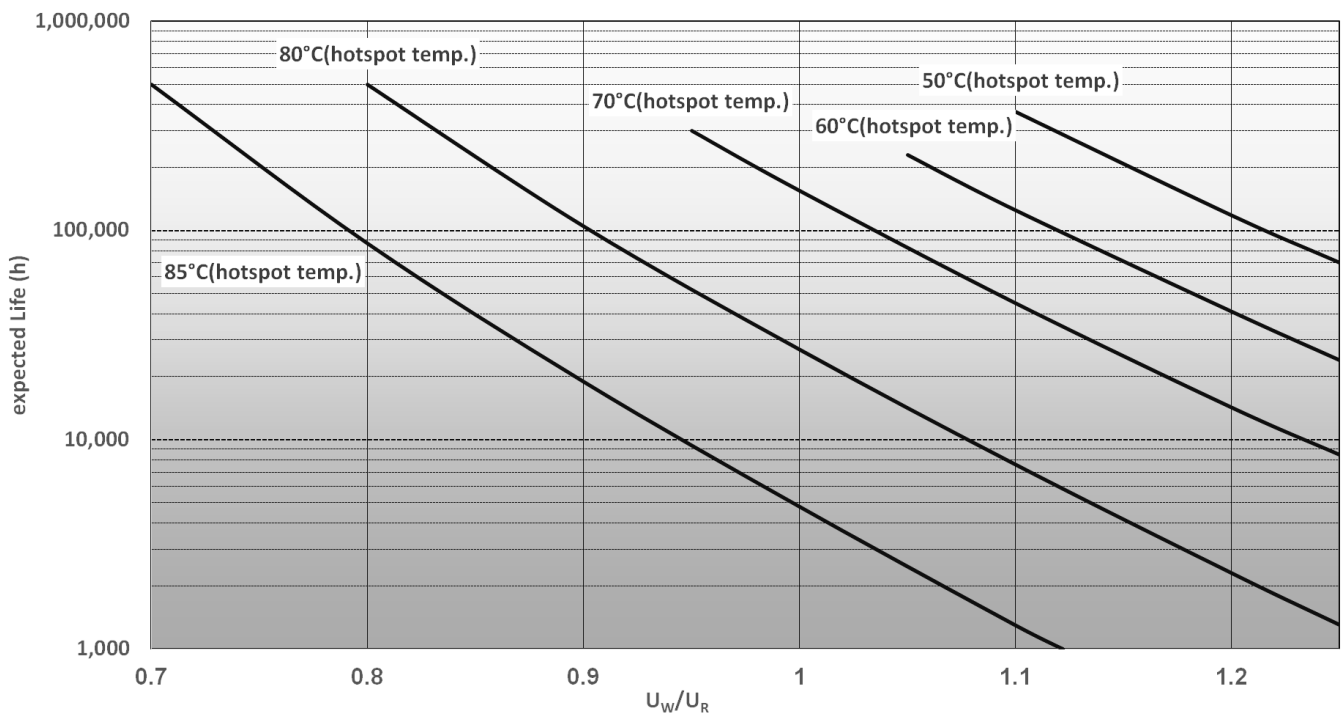
Standard Products Table

Rated d.c voltage U_N : 1,500Vdc Max.ripple voltage U_r : 350V Non repetitive surge voltage U_s : 2,250V Voltage test between terminals U_{TT} : 2,250Vdc/10s Voltage test terminals to case. U_{TC} : 3,200Vac/10s											
Nominal Capacitance C_N (μ F)	Dimensions			Maximum ripple current (Arms) I_{max}^* [Arms/at50°C, 1k ~ 10kHz]	Maximum peak current I^{\wedge} [kA]	Maximum Surge current I_s [kA]	Charge energy W [J]	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]	Remarks								
70	85	70	Standard size	23	2	6	79	4.6	60	8.0	MLC1500V706KB8570
80	85	75		23	2	6	90	4.8	65	7.7	MLC1500V806KB8575
	88.5	70	Standard size	25	3	9	90	4.0	60	7.8	MLC1500V806KB88570
90	85	80		23	3	9	101	5.1	65	7.1	MLC1500V906KB8580
	88.5	75		25	3	9	101	4.3	65	7.2	MLC1500V906KB88575
100	85	87		22	2	6	113	5.7	75	7.0	MLC1500V107KB8587
	88.5	80		24	3	9	113	4.7	65	7.2	MLC1500V107KB88580
110	85	95	Standard size	22	2	6	124	6.5	80	6.1	MLC1500V117KB8595
	88.5	87		24	3	9	124	5.2	75	6.5	MLC1500V117KB88587
	100	70	Standard size	30	4	12	124	3.1	60	6.9	MLC1500V117KB10070
120	100	75		30	4	12	135	3.4	65	6.3	MLC1500V127KB10075
130	85	106		22	3	9	146	7.3	90	5.5	MLC1500V137KB85106
	88.5	95	Standard size	24	3	9	146	5.6	80	6.0	MLC1500V137KB88595
	100	80		29	4	12	146	3.8	65	6.1	MLC1500V137KB10080
150	85	125	Standard size	43	5	15	169	2.2	40	4.7	MLC1500V157KB85125
	88.5	106		24	3	9	169	6.4	90	5.3	MLC1500V157KB885106
	100	87		29	4	12	169	4.0	75	5.7	MLC1500V157KB10087
	116	70	Standard size	37	5	15	169	2.5	60	5.7	MLC1500V157KB11670
160	85	120		22	3	9	180	8.1	100	4.9	MLC1500V167KB85120
	85	135		43	5	15	180	2.4	40	4.3	MLC1500V167KB85135
	116	75		36	5	15	180	2.7	65	5.5	MLC1500V167KB11675
170	88.5	120		23	3	9	191	7.7	100	4.8	MLC1500V177KB885120
	88.5	125	Standard size	47	6	18	191	2.0	40	4.4	MLC1500V177KB885125
	100	95	Standard size	29	4	12	191	4.5	80	5.1	MLC1500V177KB10095
180	85	145		43	5	15	203	2.6	45	4.0	MLC1500V187KB85145
	88.5	135		46	6	18	203	2.2	40	4.2	MLC1500V187KB885135
	116	80		36	5	15	203	2.9	65	5.1	MLC1500V187KB11680
190	100	106		28	4	12	214	5.2	90	4.7	MLC1500V197KB100106
200	85	159		42	5	15	225	2.9	50	3.8	MLC1500V207KB85159
	88.5	145		45	6	18	225	2.4	45	4.0	MLC1500V207KB885145
	116	87		34	5	15	225	3.2	75	5.2	MLC1500V207KB11687
210	100	125	Standard size	54	7	21	236	1.7	40	3.9	MLC1500V217KB100125
230	85	175	Standard size	42	5	15	259	3.2	55	3.4	MLC1500V237KB85175
	88.5	159		46	6	18	259	2.6	50	3.6	MLC1500V237KB885159
	100	120		28	4	12	259	5.9	100	4.2	MLC1500V237KB100120
	116	95	Standard size	34	5	15	259	3.5	80	4.7	MLC1500V237KB11695
240	140	70	Standard size	40	8	24	259	1.8	60	6.8	MLC1500V237KB14070
	100	135		54	7	21	270	1.8	40	3.8	MLC1500V247KB100135
250	140	75		40	8	24	281	2.0	65	6.2	MLC1500V257KB14075
260	88.5	175	Standard size	45	6	18	293	2.9	55	3.3	MLC1500V267KB885175
	100	145		53	7	21	293	2.0	45	3.5	MLC1500V267KB100145
270	85	197		42	5	15	304	3.6	60	3.0	MLC1500V277KB85197
	116	106		34	5	15	304	3.9	90	4.3	MLC1500V277KB116106
280	140	80		40	8	24	315	2.1	65	5.8	MLC1500V287KB14080
300	88.5	197		45	6	18	338	3.3	60	2.9	MLC1500V307KB885197
	100	159		54	7	21	338	2.1	50	3.2	MLC1500V307KB100159
	116	125	Standard size	66	10	30	338	1.3	40	3.4	MLC1500V307KB116125
320	85	225		42	5	15	360	4.2	70	2.6	MLC1500V327KB85225
	116	120		34	5	15	360	4.5	100	3.7	MLC1500V327KB116120
	140	87		40	8	24	360	2.3	75	5.3	MLC1500V327KB14087
330	116	135		66	10	30	371	1.4	40	3.2	MLC1500V337KB116135
340	100	175	Standard size	53	7	21	383	2.3	55	3.0	MLC1500V347KB100175
350	88.5	225		44	6	18	394	3.8	70	2.7	MLC1500V357KB885225
360	140	95	Standard size	39	8	24	405	2.5	80	5.1	MLC1500V367KB14095
370	116	145		65	10	30	416	1.5	45	3.1	MLC1500V377KB116145
390	100	197		53	8	24	439	2.7	60	2.6	MLC1500V397KB100197
400	140	106		38	8	24	450	2.9	90	4.7	MLC1500V407KB140106
410	116	159		65	10	30	461	1.7	50	2.8	MLC1500V417KB116159
460	100	225		52	8	24	518	3.1	70	2.3	MLC1500V467KB100225
	140	125	Standard size	71	16	48	518	1.0	40	3.9	MLC1500V467KB140125
470	116	175	Standard size	65	10	30	529	1.8	55	2.5	MLC1500V477KB116175
480	140	120		38	8	24	540	3.3	100	4.1	MLC1500V487KB140120
510	140	135		71	16	48	574	1.0	40	3.9	MLC1500V517KB140135
540	116	197		64	10	30	608	2.1	60	2.3	MLC1500V547KB116197
570	140	145		71	16	48	641	1.1	45	2.5	MLC1500V577KB140145
	116	225		64	10	30	720	2.4	70	2.0	MLC1500V647KB116225
640	140	159		71	16	48	720	1.2	50	3.2	MLC1500V647KB140159
	140	175	Standard size	70	16	48	810	1.3	55	3.1	MLC1500V727KB140175
810	140	197		69	16	48	911	1.5	60	2.8	MLC1500V817KB140197
960	140	225		69	16	48	1,080	1.8	70	2.3	MLC1500V967KB140225

* • 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.

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

Lifetime expectancy (vs temperature and voltage)



Definitions of specifications

Nominal Capacitance C_N

Capacitance value rated at 20°C/ 1kHz

Rated d.c. Voltage U_R

The peak voltage of either polarity of a reversing or non-reversing type wave form for which the capacitor is designed and rated.

Max. Ripple voltage U_r

The peak-to-peak alternating component of the unidirectional voltage

Non repetitive surge voltage U_S

Voltages beyond the rated voltage occurred by switching or any other causes. Maximum count 1000 times with a duration of not more than 50 ms each.

Charge energy W

Energy accumulated in the capacitor when charged at the rated voltage.

Maximum ripple current I_{max}

Maximum rms value of permissible current in continuous operation. The values given in the data sheets are related to either the specified maximum power dissipation or the current limits of the connection terminals.

Maximum peak current \hat{I}

Maximum permitted repetitive current amplitude during continuous operation.

Maximum surge current I_S

Maximum current that may occur non-repetitively and briefly in the event of a fault. Maximum count 1000 times with a duration of not more than 50 ms each.

Equivalent series resistance ESR

Equivalent resistance represents the sum of all Ohmic resistances occurring inside the capacitor. It is essential for calculation of the current dependent losses. Please consult us when low frequencies such as commercial frequencies and/or high frequencies over 10kHz are superimposed on the fundamental frequency of ripple current.

Dielectric dissipation factor $\tan \delta$

Constant dissipation factor of the dielectric material for all capacitors in their rated frequency.

Self discharge time constant $C \times R_{is}$

Time constant of self-discharge

Equivalent series inductance ESL

Shows the sum of all inductive elements that are contained in capacitors.

Minimum operating temperature T_{min}

Lower permissible ambient temperature where a capacitor is used.

Maximum operating temperature T_{max}

Highest permissible capacitor temperature during operation.

Storage temperature $T_{storage}$

Temperature range at no-loaded storage

Ambient temperature T_a

Temperature of the capacitor outside air, measured 10 cm away and at 2/3 of the case height of the capacitor.

Hotspot temperature $\theta_{hotspot}$

Temperature at the hottest spot inside the capacitor.

Thermal resistance R_{th}

The thermal resistance indicates by how many degrees the capacitor temperature at the hotspot rises in relation to the dissipation losses.

Maximum power dissipation P_{max}

Maximum permitted power dissipation for the capacitor's operation

Voltage test between terminals U_{TT}

Test voltage of withstanding between terminals at room temperature

Voltage test between terminals and case U_{TC}

Routine test of all capacitors between short-circuited terminals and case, executed at room temperature.

Clearance in air

The shortest distance between conducting parts of the terminals or between terminals and case.

Creepage distance

The shortest distance along an insulated surface between conducting parts of the terminals or between terminals and case.

Applied voltage U_w

Effective working voltage according to the actual capacitor