KOME

KLP Series

Radial Aluminium Electrolytic Capacitors



Features

- 5000 ~ 8000 hours at 105°C
- Low impedance, high ripple current
- For switching power supplies

TEMPERATURE RANGE	RATED VOLTAGE	CAPACITANCE	ENDURANCE
–40 / –25°C … +105°C	**6.3 – 450 V**	**0.47 – 18000 μF**	**105°C 5000 – 8000 h**

Temperature range: –40°C … +105°C for 6.3 ~ 250 V (voltage range inferred, to be confirmed by manufacturer); –25°C … +105°C for 350 ~ 450 V. Endurance: 5000 h for ΦD ≤ 6.3; 6000 h for ΦD = 8, 10; 8000 h for ΦD ≥ 13.

Specifications

Operating temperature range	6.3 ~ 250 V (voltage range inferred, to be confirmed by manufacturer): –40 ~ +105°C 350 ~ 450 V: –25 ~ +105°C
Rated voltage range	6.3 ~ 450 V
Capacitance range	0.47 ~ 18000 μF
Capacitance tolerance	±20% (20°C, 120 Hz)
Leakage current	6.3 ~ 100 V: After 2 minutes' application of rated voltage at 20°C, not more than 0.01CV or 3 μA, whichever is greater 160 ~ 450 V (voltage range inferred, to be confirmed by manufacturer): After 5 minutes' application of rated voltage at 20°C, CV ≤ 1000: not more than 0.03CV + 15 μA CV > 1000: not more than 0.02CV + 25 μA C: nominal capacitance (μF), V: rated voltage (V)
Load life	The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage with the rated ripple current has been applied for 5000 ~ 8000 hours at 105°C.
Capacitance change	Within ±25% of the initial value
D.F. (tan δ)	Not more than 200% of the specified value
Leakage current	Not more than the specified value
Life by case diameter	ΦD ≤ 6.3: 5000 hours ΦD = 8, 10: 6000 hours ΦD ≥ 13: 8000 hours
Shelf life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposure for 1,000 hours at 105°C without voltage applied.
Capacitance change	Within ±25% of the initial value
D.F. (tan δ)	Not more than 200% of the specified value
Leakage current	Not more than 200% of the specified value

Low-temperature characteristics

Rated voltage (V)	6.3 ~ 10	16	25 ~ 35	50 ~ 100	160 ~ 250	350 ~ 400	450
Z(−25°C)/Z(+20°C)	–	–	–	–	–	6	10
Z(−40°C)/Z(+20°C)	4	3	3	3	6	–	–

Impedance ratio at 120 Hz.

Ripple current frequency correction factor

Frequency	120 Hz	1 kHz	10 kHz	100 kHz
6.3 ~ 100 V, ≤ 10 μF	0.30	0.68	0.87	1.00
12 ~ 180 μF	0.40	0.75	0.90	1.00
220 ~ 560 μF	0.50	0.83	0.93	1.00
680 ~ 1800 μF	0.60	0.86	0.95	1.00
2200 ~ 3900 μF	0.75	0.90	0.97	1.00
4700 ~ 18000 μF	0.85	0.95	0.98	1.00

Dissipation factor (tan δ) at 20°C, 120 Hz

Rated voltage (V)	6.3	10	16	25	35	50	63 ~ 100	160 ~ 400	450
tan δ (max.)	0.20	0.18	0.16	0.14	0.12	0.10	0.08	0.15	0.20

Ripple current frequency correction factor, 160 ~ 450 V

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz	100 kHz
0.1 ~ 8.2 μF	0.65	1.00	1.35	1.75	2.30	2.50
10 ~ 82 μF	0.75	1.00	1.25	1.50	1.75	1.80
100 ~ 1000 μF	0.80	1.00	1.15	1.30	1.40	1.50

Ripple current temperature coefficient

Ambient temperature (°C)	+70	+85	+105
Coefficient	1.96	1.68	1.0

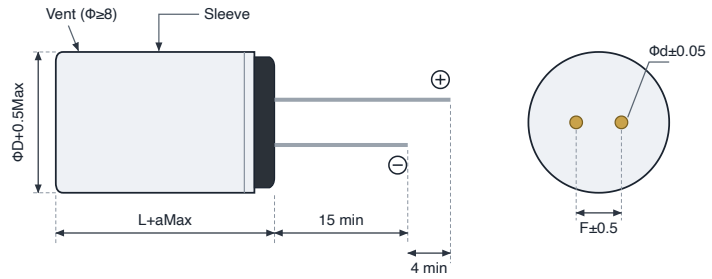
Standard ratings

μF \ V	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
0.47						5×11								
1						5×11								
2.2						5×11							10×12.5	10×12.5
3.3						5×11							10×12.5	10×12.5
4.7						5×11							10×16	10×16
6.8								5×11				10×16	10×16	10×20
10						5×11			10×16	10×16	10×20	10×20	10×20	13×20
15							5×11	6.3×12					13×20	13×25
22						5×11			10×20	10×20	10×20	13×20	16×20	16×20
27								8×12						
33					5×11		6.3×12		10×20	10×20	13×20	16×20	16×20	16×25 18×20
39								8×16						
47				5×11				10×12.5	10×20	13×20	13×20	18×20	16×25 18×20	18×25
56			5×11		6.3×12	6.3×12	8×12	8×20						
68								10×16	13×20	13×20	16×20	18×25	18×25	18×31.5
82							8×16 10×12.5	10×20	13×20	16×20	16×20	18×32	18×25	18×35.5
100		5×11		6.3×12	6.3×15	8×12		13×16	13×25	16×20	16×25	18×32	18×35.5	18×40
120			6.3×12			8×16	8×20 10×16	10×25					18×35.5	
150	5×11			6.3×15	8×12	10×12.5		13×20	16×25	16×25	18×25	18×40	18×40	
180						8×20	10×20 13×16							
220		6.3×12	6.3×15	8×12	8×16 10×12.5	10×16	10×25	13×25 16×20	18×25	18×30	18×40			
270					8×20	10×20	13×20	13×30						
330	6.3×12	6.3×15	8×12	8×16 10×12.5	10×16	10×25		13×35 16×25 18×20	18×40	18×40				
390							13×25	13×40						
470	6.3×15	8×12	8×16 10×12.5	8×20 10×16	10×20	10×30 13×20	13×30 16×20	16×31.5 18×25						
560			8×20		10×25	13×25	13×35	16×35.5 18×31.5						
680	8×12	8×16 10×12.5	10×16	10×20	10×30 13×20	13×30	13×40 16×25 18×20	16×40 18×35.5						
820	10×12.5			10×25		13×35 16×20	16×31.5 18×25	18×40						
1000	8×16	8×20 10×16	10×20	10×30 13×20	13×25	13×40 16×25 18×20	16×35.5							
1200	8×20 10×16	10×20	10×25		13×30 16×20	16×31.5 18×25	16×40 18×31.5							
1500	10×20	10×25	10×30 13×20	13×25	13×35	16×35.5	18×35.5							
1800				13×30 16×20	13×40 16×25 18×20	16×40 18×31.5	18×40							
2200	10×25	10×30 13×20	13×25	13×35 18×20	16×31.5 18×25	18×35.5								
2700	10×30		13×30 16×20	13×40 16×25	16×35.5 18×31.5	18×40								
3300	13×20	13×25	13×35	16×31.5 18×25	16×40 18×35.5									
3900	13×25	13×30 16×20	13×40 16×25 18×20	16×35.5 18×31.5	18×40									
4700	13×30	13×35	16×31.5 18×25	16×40 18×35.5										
5600	13×35 16×20	13×40 16×25 18×20	16×35.5 18×31.5	18×40										
6800	13×40 16×25 18×20	16×31.5 18×25	16×40											
8200	16×31.5	16×35.5 18×31.5	18×35.5											

10000	16×35.5 18×25	16×40 18×35.5	18×40											
12000	16×40 18×31.5	18×40												
15000	18×35.5													
18000	18×40													

Case size ΦD × L (mm). Full ratings in the characteristics list.

Dimensions



ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	1.5	2.0	2.0

Unit: mm

How to order

KLP	4	102	M	100	B	10X16
Series code	Number of characters for capacitance 47μF = 2, 470μF = 3, 4700μF = 4	Capacitance 47μF = 470, 3300μF = 332, 33000μF = 333	Capacitance tolerance M = ±20%, K = ±10%	Voltage code 6.3V = 060, 10V = 100, 63V = 630, 100V = 101	Package B: bulk pack, A: ammo pack	Size code

Example: KLP4102M100B10X16

Characteristics list

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C (mA rms) *	Size ΦD×L (mm)	Surge Voltage (V)
6.3	150	0.58	210	5×11	8
6.3	330	0.22	340	6.3×12	8
6.3	470	0.17	460	6.3×15	8
6.3	680	0.13	640	8×12	8
6.3	820	0.080	865	10×12.5	8
6.3	1000	0.087	840	8×16	8
6.3	1200	0.069	1050	8×20	8
6.3	1200	0.060	1210	10×16	8
6.3	1500	0.046	1400	10×20	8
6.3	2200	0.042	1650	10×25	8
6.3	2700	0.031	1910	10×30	8
6.3	3300	0.035	1900	13×20	8
6.3	3900	0.027	2230	13×25	8
6.3	4700	0.024	2650	13×30	8
6.3	5600	0.020	2880	13×35	8
6.3	5600	0.027	2530	16×20	8
6.3	6800	0.017	3350	13×40	8
6.3	6800	0.021	2930	16×25	8
6.3	6800	0.026	2860	18×20	8
6.3	8200	0.017	3450	16×31.5	8
6.3	10000	0.015	3610	16×35.5	8
6.3	10000	0.019	3140	18×25	8
6.3	12000	0.013	4080	16×40	8
6.3	12000	0.015	4170	18×31.5	8
6.3	15000	0.014	4220	18×35.5	8
6.3	18000	0.012	4280	18×40	8
10	100	0.58	210	5×11	13
10	220	0.22	340	6.3×12	13
10	330	0.17	460	6.3×15	13
10	470	0.13	640	8×12	13
10	680	0.087	840	8×16	13
10	680	0.080	865	10×12.5	13
10	1000	0.069	1050	8×20	13
10	1000	0.060	1210	10×16	13
10	1200	0.046	1400	10×20	13
10	1500	0.042	1650	10×25	13

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C (mA rms) *	Size ΦD×L (mm)	Surge Voltage (V)
10	2200	0.031	1910	10×30	13
10	2200	0.035	1900	13×20	13
10	3300	0.027	2230	13×25	13
10	3900	0.024	2650	13×30	13
10	3900	0.027	2880	16×20	13
10	4700	0.020	2530	13×35	13
10	5600	0.017	3350	13×40	13
10	5600	0.021	2930	16×25	13
10	5600	0.026	2860	18×20	13
10	6800	0.017	3450	16×31.5	13
10	6800	0.019	3140	18×25	13
10	8200	0.015	3610	16×35.5	13
10	8200	0.015	4170	18×31.5	13
10	10000	0.013	4080	16×40	13
10	10000	0.014	4220	18×35.5	13
10	12000	0.012	4280	18×40	13
16	56	0.58	210	5×11	20
16	120	0.22	340	6.3×12	20
16	220	0.17	460	6.3×15	20
16	330	0.13	640	8×12	20
16	470	0.080	840	8×16	20
16	470	0.087	865	10×12.5	20
16	560	0.069	1050	8×20	20
16	680	0.060	1210	10×16	20
16	1000	0.046	1400	10×20	20
16	1200	0.042	1650	10×25	20
16	1500	0.031	1910	10×30	20
16	1500	0.035	1900	13×20	20
16	2200	0.027	2230	13×25	20
16	2700	0.024	2650	13×30	20
16	2700	0.027	2530	16×20	20
16	3300	0.020	2880	13×35	20
16	3900	0.017	3350	13×40	20
16	3900	0.021	2930	16×25	20
16	3900	0.026	2860	18×20	20
16	4700	0.017	3450	16×31.5	20
16	4700	0.019	3140	18×25	20
16	5600	0.015	3610	16×35.5	20
16	5600	0.015	4170	18×31.5	20
16	6800	0.013	4080	16×40	20
16	8200	0.014	4220	18×35.5	20
16	10000	0.012	4280	18×40	20
25	47	0.06	210	5×11	32
25	100	0.22	340	6.3×12	32
25	150	0.17	460	6.3×15	32
25	220	0.13	640	8×12	32
25	330	0.087	840	8×16	32
25	330	0.080	865	10×12.5	32
25	470	0.069	1050	8×20	32
25	470	0.060	1210	10×16	32
25	680	0.046	1400	10×20	32
25	820	0.042	1650	10×25	32
25	1000	0.031	1910	10×30	32
25	1000	0.035	1900	13×20	32
25	1500	0.027	2230	13×25	32
25	1800	0.024	2650	13×30	32
25	1800	0.027	2530	16×20	32
25	2200	0.020	2880	13×35	32
25	2200	0.026	2860	18×20	32
25	2700	0.017	3350	13×40	32
25	2700	0.021	2930	16×25	32
25	3300	0.017	3450	16×31.5	32
25	3300	0.019	3140	18×25	32
25	3900	0.015	3610	16×35.5	32
25	3900	0.015	4170	18×31.5	32
25	4700	0.013	4080	16×40	32
25	4700	0.014	4220	18×35.5	32
25	5600	0.012	4280	18×40	32
35	33	0.58	210	5×11	44

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C (mA rms) *	Size ΦD×L (mm)	Surge Voltage (V)
35	56	0.22	340	6.3×12	44
35	100	0.17	460	6.3×15	44
35	150	0.13	640	8×12	44
35	220	0.087	840	8×16	44
35	220	0.080	865	10×12.5	44
35	270	0.069	1050	8×20	44
35	330	0.060	1210	10×16	44
35	470	0.046	1400	10×20	44
35	560	0.042	1650	10×25	44
35	680	0.031	1910	10×30	44
35	680	0.035	1900	13×20	44
35	1000	0.027	2230	13×25	44
35	1200	0.024	2650	13×30	44
35	1200	0.027	2530	16×20	44
35	1500	0.020	2880	13×35	44
35	1800	0.017	3350	13×40	44
35	1800	0.021	2930	16×25	44
35	1800	0.026	2860	18×20	44
35	2200	0.017	3450	16×31.5	44
35	2200	0.019	3140	18×25	44
35	2700	0.015	3610	16×35.5	44
35	2700	0.015	4170	18×31.5	44
35	3300	0.013	4080	16×40	44
35	3300	0.014	4220	18×35.5	44
35	3900	0.012	4280	18×40	44
50	0.47	5.50	17	5×11	63
50	1	4	30	5×11	63
50	2.2	2.5	43	5×11	63
50	3.3	2.2	53	5×11	63
50	4.7	1.9	88	5×11	63
50	10	1.5	100	5×11	63
50	22	0.7	180	5×11	63
50	56	0.3	295	6.3×12	63
50	100	0.17	555	8×12	63
50	120	0.120	730	8×16	63
50	150	0.120	760	10×12.5	63
50	180	0.091	910	8×20	63
50	220	0.084	1050	10×16	63
50	270	0.060	1220	10×20	63
50	330	0.055	1440	10×25	63
50	470	0.043	1690	10×30	63
50	470	0.045	1660	13×20	63
50	560	0.034	1950	13×25	63
50	680	0.030	2310	13×30	63
50	820	0.025	2510	13×35	63
50	820	0.034	2210	16×20	63
50	1000	0.021	2920	13×40	63
50	1000	0.025	2550	16×25	63
50	1000	0.036	2490	18×20	63
50	1200	0.022	3010	16×31.5	63
50	1200	0.026	2740	18×25	63
50	1500	0.019	3150	16×35.5	63
50	1800	0.016	3710	16×40	63
50	1800	0.021	3635	18×31.5	63
50	2200	0.017	3680	18×35.5	63
50	2700	0.014	3800	18×40	63
63	15	0.880	165	5×11	79
63	33	0.350	265	6.3×12	79
63	56	0.220	500	8×12	79
63	82	0.160	665	8×16	79
63	82	0.110	690	10×12.5	79
63	120	0.120	820	8×20	79
63	120	0.076	950	10×16	79
63	180	0.056	1150	10×20	79
63	180	0.072	1150	13×16	79
63	220	0.046	1350	10×25	79
63	270	0.041	1500	13×20	79
63	390	0.031	1900	13×25	79
63	470	0.028	2300	13×30	79

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C (mA rms) *	Size ΦD×L (mm)	Surge Voltage (V)
63	470	0.032	2000	16×20	79
63	560	0.024	2500	13×35	79
63	680	0.021	2800	13×40	79
63	680	0.025	2600	16×25	79
63	680	0.030	2500	18×20	79
63	820	0.021	2850	16×31.5	79
63	820	0.024	2800	18×25	79
63	1000	0.019	2900	16×35.5	79
63	1200	0.018	3400	16×40	79
63	1200	0.020	3300	18×31.5	79
63	1500	0.018	3400	18×35.5	79
63	1800	0.017	3500	18×40	79
100	6.8	1.400	125	5×11	125
100	15	0.570	205	6.3×12	125
100	27	0.360	355	8×12	125
100	39	0.250	450	8×16	125
100	47	0.170	480	10×12.5	125
100	56	0.190	565	8×20	125
100	68	0.110	600	10×16	125
100	82	0.084	680	10×20	125
100	100	0.110	750	13×16	125
100	120	0.069	900	10×25	125
100	150	0.062	1100	13×20	125
100	220	0.047	1250	13×25	125
100	220	0.048	1350	16×20	125
100	270	0.042	1500	13×30	125
100	330	0.036	1650	13×35	125
100	330	0.038	1700	16×25	125
100	330	0.045	1500	18×20	125
100	390	0.032	1800	13×40	125
100	470	0.032	1850	16×31.5	125
100	470	0.036	1750	18×25	125
100	560	0.029	2000	16×35.5	125
100	560	0.030	1900	18×31.5	125
100	680	0.027	2200	16×40	125
100	680	0.027	2200	18×35.5	125
100	820	0.026	2700	18×40	125
160	10	—	125	10×16	200
160	22	—	200	10×20	200
160	33	—	250	10×20	200
160	47	—	300	10×20	200
160	68	—	470	13×20	200
160	82	—	510	13×20	200
160	100	—	620	13×25	200
160	150	—	770	16×25	200
160	220	—	1020	18×25	200
160	330	—	1390	18×40	200
200	10	—	125	10×16	250
200	22	—	200	10×20	250
200	33	—	260	10×20	250
200	47	—	390	13×20	250
200	68	—	470	13×20	250
200	82	—	550	16×20	250
200	100	—	630	16×20	250
200	150	—	840	16×25	250
200	220	—	1050	18×30	250
200	330	—	1430	18×40	250
250	10	—	140	10×20	300
250	22	—	200	10×20	300
250	33	—	320	13×20	300
250	47	—	390	13×20	300
250	68	—	520	16×20	300
250	82	—	550	16×20	300
250	100	—	680	16×25	300
250	150	—	860	18×25	300
250	220	—	1130	18×40	300
350	6.8	—	110	10×16	400
350	10	—	140	10×20	400
350	22	—	260	13×20	400

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C (mA rms) *	Size ΦD×L (mm)	Surge Voltage (V)
350	33	—	360	16×20	400
350	47	—	430	18×20	400
350	68	—	560	18×25	400
350	82	—	610	18×32	400
350	100	—	700	18×32	400
350	150	—	960	18×40	400
400	2.2	—	35	10×12.5	450
400	3.3	—	50	10×12.5	450
400	4.7	—	75	10×16	450
400	6.8	—	110	10×16	450
400	10	—	140	10×20	450
400	15	—	220	13×20	450
400	22	—	260	16×20	450
400	33	—	360	16×20	450
400	47	—	470	16×25	450
400	47	—	450	18×20	450
400	68	—	585	18×25	450
400	82	—	610	18×25	450
400	100	—	765	18×35.5	450
400	120	—	865	18×35.5	450
400	150	—	985	18×40	450
450	2.2	—	35	10×12.5	500
450	3.3	—	50	10×12.5	500
450	4.7	—	75	10×16	500
450	6.8	—	110	10×20	500
450	10	—	180	13×20	500
450	15	—	240	13×25	500
450	22	—	290	16×20	500
450	33	—	390	16×25	500
450	33	—	380	18×20	500
450	47	—	480	18×25	500
450	68	—	630	18×31.5	500
450	82	—	715	18×35.5	500
450	100	—	800	18×40	500

Leakage current: the original sheet does not print the voltage range for the 5-minute limit; read as 160 ~ 450 V (the 2-minute limit is printed for 6.3 ~ 100 V) — subject to manufacturer confirmation.

Operating temperature range: the original prints –40 ~ +105°C without a voltage range and –25 ~ +105°C for 350 ~ 450 V; 6.3 ~ 250 V is inferred from the Low Temperature Characteristics table — subject to manufacturer confirmation.

* Rated ripple current: 6.3–100 V at 105°C 100 kHz; 160–450 V at 105°C 120 Hz (as printed on the original pp.3–7). Max ESR is not printed for 160–450 V (shown as —). Customer products are available on request.

Voltage code for 6.3 V is 060 as specified by the manufacturer (2026-11-03).