KOME

KLN Series

Radial Aluminium Electrolytic Capacitors



Features

- 6000 ~ 10000 hours at 105°C
- Low impedance
- High ripple current, long life
- RoHS compliant

TEMPERATURE RANGE	RATED VOLTAGE	CAPACITANCE	ENDURANCE
–40°C … +105°C	**6.3 – 100 V**	**6.8 – 22000 μF**	**105°C 6000 – 10000 h**

Endurance: 6000 h for ΦD ≤ 6.3; 8000 h for ΦD = 8; 10000 h for ΦD ≥ 10.

Specifications

Operating temperature range	–40 ~ +105°C
Rated voltage range	6.3 ~ 100 V
Capacitance range	6.8 ~ 22000 μF
Capacitance tolerance	±20% (20°C, 120 Hz)
Leakage current	After 2 minutes' application of rated voltage at 20°C, not more than 0.01CV or 3 μA, whichever is greater 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 6000 ~ 10000 hours at 105°C.

Capacitance change	Within ±30% of the initial value (6.3 ~ 10 V) Within ±25% of the initial value (16 ~ 100 V)
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: 6000 hours ΦD = 8: 8000 hours ΦD ≥ 10: 10000 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. Before the measurement, the capacitors shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.

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 ~ 100
Z(–25°C)/Z(+20°C)	4	3	2	2
Z(–40°C)/Z(+20°C)	8	6	4	3

Impedance ratio at 120 Hz.

Ripple current frequency correction factor

Frequency	120 Hz	1 kHz	10 kHz	100 kHz
0.47 ~ 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 ~ 80	100
tan δ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08

For capacitances above 1000 μF, add 0.02 for every additional 1000 μF.

Ripple current temperature coefficient

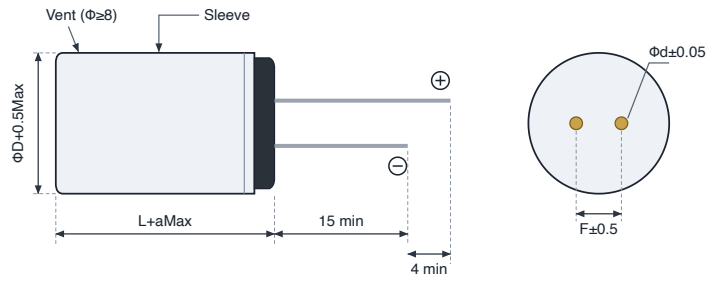
Ambient temperature (°C)	+70	+85	+105
Coefficient	1.96	1.68	1.00

Standard ratings

μF \ V	6.3	10	16	25	35	50	63	80	100
6.8									5×11
12								5×11	
15									6.3×12
18							5×11		
22								6.3×12	
27						5×11			8×12
33							6.3×12		
39								8×12	8×15
47					5×11				
56						6.3×12	8×12	8×15	8×20 10×13
82				5×11			8×15	8×20 10×13	10×16
100					6.3×12	8×12			10×20
120		5×11	5×11				8×20 10×13	10×16	10×25
150				6.3×12		8×15 10×13			10×30
180	5×11				8×12	8×20	10×16	10×20	13×20
220						10×16	10×20	10×25	13×25
270			6.3×12		8×15	10×20		10×30 13×20	13×30 16×20
330		6.3×12		8×12	8×20 10×13		10×25		16×25
390	6.3×12			8×15		10×25	10×30 13×20	13×25	13×35 18×20
470			8×12	10×13	10×16	10×30 13×20		13×30 16×20	13×40 16×32
560		8×12		8×20			13×25	13×35 18×20	16×36 18×25
680			8×15 10×13	10×16	10×20	13×25	13×30 16×20	13×40 16×25	16×40 18×32
820	8×12	8×15	8×20		10×25	13×30 16×20	13×35 18×20	16×32 18×25	18×36
1000		8×20 10×13	10×16	10×20	10×30 13×20	13×35 18×20	13×40 16×25	16×36	18×40
1200	8×15 10×13	10×16		10×25		13×40 16×25	16×32 18×25	16×40 18×32	
1500	8×20		10×20	10×30 13×20	13×25	16×32 18×25	16×36 18×32	18×36	
1800	10×16	10×20	10×25		13×30 16×20	16×36	16×40 18×36		
2200	10×20	10×25	10×30 13×20	13×25	13×35 18×20	16×40 18×32	18×40		
2700	10×25	10×30 13×20		13×30 16×20	13×40 16×25	18×36			
3300	10×30		13×25	13×35 18×20	16×32 18×25				
3900	13×20	13×25	13×30 16×20	13×40 16×25	16×36				
4700	13×25	13×30 16×20	13×35 18×20	16×32 18×25	16×40 18×32				
5600		13×35	13×40 16×25	16×36	18×36				
6800	13×30 16×20	13×40 16×25 18×20	16×32 18×25	16×40 18×32					
8200	13×35 18×20	16×32 18×25	16×36 18×32	18×36					
10000	13×40 16×25	16×36 18×32	16×40 18×36						
12000	16×32 18×25	16×40 18×36	18×40						
15000	16×36 18×32	18×40							
18000	16×40 18×36								
22000	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	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Unit: mm

How to order

KLN	4	102	M	100	B	10X13
Series code	Number of characters for capacitance 47μF = 2, 470μF = 3, 4700μF = 4	Capacitance 47μF = 470, 3300μF = 332, 33000μF = 333	Capacitance tolerance M = ±20%	Voltage code 6.3V = 060, 10V = 100, 63V = 630, 100V = 101	Package B: bulk pack, A: ammo pack	Size code

Example: KLN4102M100B10X13

Characteristics list

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C 100kHz (mA rms)	Size ΦD×L (mm)	Surge Voltage (V)
6.3	180	0.290	340	5×11	7.2
6.3	390	0.150	540	6.3×12	7.2
6.3	820	0.087	840	8×12	7.2
6.3	1200	0.069	1050	8×15	7.2
6.3	1200	0.064	1050	10×13	7.2
6.3	1500	0.060	1210	8×20	7.2
6.3	1800	0.049	1400	10×16	7.2
6.3	2200	0.037	1650	10×20	7.2
6.3	2700	0.031	1910	10×25	7.2
6.3	3300	0.027	2230	10×30	7.2
6.3	3900	0.027	2230	13×20	7.2
6.3	4700	0.024	2530	13×25	7.2
6.3	6800	0.021	2860	13×30	7.2
6.3	6800	0.025	2610	16×20	7.2
6.3	8200	0.018	3140	13×35	7.2
6.3	8200	0.021	3000	18×20	7.2
6.3	10000	0.017	3640	13×40	7.2
6.3	10000	0.020	3140	16×25	7.2
6.3	12000	0.016	3610	16×32	7.2
6.3	12000	0.017	3530	18×25	7.2
6.3	15000	0.014	4080	16×36	7.2
6.3	15000	0.014	4220	18×32	7.2
6.3	18000	0.013	4220	16×40	7.2
6.3	18000	0.012	4280	18×36	7.2
6.3	22000	0.011	4700	18×40	7.2
10	120	0.290	340	5×11	13
10	330	0.150	540	6.3×12	13
10	560	0.087	840	8×12	13
10	820	0.069	1050	8×15	13
10	1000	0.060	1210	8×20	13
10	1000	0.064	1050	10×13	13
10	1200	0.049	1400	10×16	13
10	1800	0.037	1650	10×20	13
10	2200	0.031	1910	10×25	13
10	2700	0.027	2230	10×30	13
10	2700	0.027	2230	13×20	13
10	3900	0.024	2530	13×25	13
10	4700	0.021	2860	13×30	13
10	4700	0.025	2610	16×20	13
10	5600	0.018	3140	13×35	13
10	6800	0.017	3640	13×40	13
10	6800	0.020	3140	16×25	13
10	6800	0.021	3000	18×20	13
10	8200	0.016	3610	16×32	13

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C 100kHz (mA rms)	Size ΦD×L (mm)	Surge Voltage (V)
10	8200	0.017	3530	18×25	13
10	10000	0.014	4080	16×36	13
10	10000	0.014	4220	18×32	13
10	12000	0.013	4220	16×40	13
10	12000	0.012	4280	18×36	13
10	15000	0.011	4700	18×40	13
16	120	0.290	340	5×11	20
16	270	0.150	540	6.3×12	20
16	470	0.087	840	8×12	20
16	680	0.069	1050	8×15	20
16	680	0.064	1050	10×13	20
16	820	0.060	1210	8×20	20
16	1000	0.049	1400	10×16	20
16	1500	0.037	1650	10×20	20
16	1800	0.031	1910	10×25	20
16	2200	0.027	2230	10×30	20
16	2200	0.027	2230	13×20	20
16	3300	0.024	2530	13×25	20
16	3900	0.021	2860	13×30	20
16	3900	0.025	2610	16×20	20
16	4700	0.018	3140	13×35	20
16	4700	0.021	3000	18×20	20
16	5600	0.017	3640	13×40	20
16	5600	0.020	3140	16×25	20
16	6800	0.016	3610	16×32	20
16	6800	0.017	3530	18×25	20
16	8200	0.014	4080	16×36	20
16	8200	0.014	4220	18×32	20
16	10000	0.013	4220	16×40	20
16	10000	0.012	4280	18×36	20
16	12000	0.011	4700	18×40	20
25	82	0.29	340	5×11	32
25	150	0.15	540	6.3×12	32
25	330	0.087	840	8×12	32
25	390	0.069	1050	8×15	32
25	470	0.064	1050	10×13	32
25	560	0.06	1210	8×20	32
25	680	0.049	1400	10×16	32
25	1000	0.037	1650	10×20	32
25	1200	0.031	1910	10×25	32
25	1500	0.027	2230	10×30	32
25	1500	0.027	2230	13×20	32
25	2200	0.024	2530	13×25	32
25	2700	0.021	2860	13×30	32
25	2700	0.025	2610	16×20	32
25	3300	0.018	3140	13×35	32
25	3300	0.021	3000	18×20	32
25	3900	0.017	3640	13×40	32
25	3900	0.02	3140	16×25	32
25	4700	0.016	3610	16×32	32
25	4700	0.017	3530	18×25	32
25	5600	0.014	4080	16×36	32
25	6800	0.013	4220	16×40	32
25	6800	0.014	4220	18×32	32
25	8200	0.012	4280	18×36	32
35	47	0.290	340	5×11	44
35	100	0.150	540	6.3×12	44
35	180	0.087	840	8×12	44
35	270	0.069	1050	8×15	44
35	330	0.060	1210	8×20	44
35	330	0.064	1050	10×13	44
35	470	0.049	1400	10×16	44
35	680	0.037	1650	10×20	44
35	820	0.031	1910	10×25	44
35	1000	0.027	2230	10×30	44
35	1000	0.027	2230	13×20	44
35	1500	0.024	2530	13×25	44
35	1800	0.021	2860	13×30	44
35	1800	0.025	2610	16×20	44

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C 100kHz (mA rms)	Size ΦD×L (mm)	Surge Voltage (V)
35	2200	0.018	3140	13×35	44
35	2200	0.021	3000	18×20	44
35	2700	0.017	3640	13×40	44
35	2700	0.020	3140	16×25	44
35	3300	0.016	3610	16×32	44
35	3300	0.017	3530	18×25	44
35	3900	0.014	4080	16×36	44
35	4700	0.013	4220	16×40	44
35	4700	0.014	4220	18×32	44
35	5600	0.012	4280	18×36	44
50	27	0.480	238	5×11	63
50	56	0.200	385	6.3×12	63
50	100	0.120	620	8×12	63
50	150	0.093	810	8×15	63
50	150	0.100	810	10×13	63
50	180	0.075	980	8×20	63
50	220	0.069	1100	10×16	63
50	270	0.055	1300	10×20	63
50	390	0.043	1600	10×25	63
50	470	0.038	1820	10×30	63
50	470	0.034	1820	13×20	63
50	680	0.030	2100	13×25	63
50	820	0.025	2450	13×30	63
50	820	0.028	2350	16×20	63
50	1000	0.021	2800	13×35	63
50	1000	0.025	2600	18×20	63
50	1200	0.019	3100	13×40	63
50	1200	0.024	2750	16×25	63
50	1500	0.019	3150	16×32	63
50	1500	0.021	2890	18×25	63
50	1800	0.016	3550	16×36	63
50	2200	0.014	3900	16×40	63
50	2200	0.014	3800	18×32	63
50	2700	0.013	4100	18×36	63
63	18	0.500	220	5×11	79
63	33	0.250	350	6.3×12	79
63	56	0.160	530	8×12	79
63	82	0.120	700	8×15	79
63	120	0.085	880	8×20	79
63	120	0.110	725	10×13	79
63	180	0.073	1050	10×16	79
63	220	0.055	1300	10×20	79
63	330	0.045	1550	10×25	79
63	390	0.040	1780	10×30	79
63	390	0.036	1780	13×20	79
63	560	0.030	2100	13×25	79
63	680	0.026	2415	13×30	79
63	680	0.028	2250	16×20	79
63	820	0.022	2700	13×35	79
63	820	0.028	2500	18×20	79
63	1000	0.020	3000	13×40	79
63	1000	0.025	2730	16×25	79
63	1200	0.020	3000	16×32	79
63	1200	0.022	2800	18×25	79
63	1500	0.018	3200	16×36	79
63	1500	0.018	3300	18×32	79
63	1800	0.016	3590	16×40	79
63	1800	0.017	3570	18×36	79
63	2200	0.016	3670	18×40	79
80	12	0.800	163	5×11	100
80	22	0.430	267	6.3×12	100
80	39	0.180	462	8×12	100
80	56	0.140	585	8×15	100
80	82	0.110	735	8×20	100
80	82	0.140	624	10×13	100
80	120	0.100	780	10×16	100
80	180	0.075	1040	10×20	100
80	220	0.060	1170	10×25	100
80	270	0.053	1350	10×30	100

UR (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C 100kHz (mA rms)	Size ΦD×L (mm)	Surge Voltage (V)
80	270	0.048	1430	13×20	100
80	390	0.039	1620	13×25	100
80	470	0.033	1950	13×30	100
80	470	0.036	1750	16×20	100
80	560	0.026	2250	13×35	100
80	560	0.032	2100	18×20	100
80	680	0.024	2450	13×40	100
80	680	0.028	2250	16×25	100
80	820	0.022	2400	16×32	100
80	820	0.027	2270	18×25	100
80	1000	0.020	2600	16×36	100
80	1200	0.018	2900	16×40	100
80	1200	0.020	2550	18×32	100
80	1500	0.018	3050	18×36	100
100	6.8	0.800	163	5×11	125
100	15	0.430	267	6.3×12	125
100	27	0.180	462	8×12	125
100	39	0.140	585	8×15	125
100	56	0.110	735	8×20	125
100	56	0.140	624	10×13	125
100	82	0.100	780	10×16	125
100	100	0.075	1040	10×20	125
100	120	0.060	1170	10×25	125
100	150	0.053	1350	10×30	125
100	180	0.048	1430	13×20	125
100	220	0.039	1620	13×25	125
100	270	0.033	1950	13×30	125
100	270	0.036	1750	16×20	125
100	330	0.028	2250	16×25	125
100	390	0.026	2250	13×35	125
100	390	0.032	2100	18×20	125
100	470	0.024	2450	13×40	125
100	470	0.022	2400	16×32	125
100	560	0.020	2600	16×36	125
100	560	0.027	2270	18×25	125
100	680	0.018	2900	16×40	125
100	680	0.020	2550	18×32	125
100	820	0.018	3050	18×36	125
100	1000	0.017	3510	18×40	125

6.3 V / 1200 μF: on the original sheet one capacitance cell spans the 8×15 and 10×13 rows, but the value 1200 is printed level with the 10×13 row only; both rows are read as 1200 μF — subject to manufacturer confirmation.
6.3 V / 22000 μF lies above the 4700 ~ 18000 μF row of the frequency correction table; no factor is given for it — subject to manufacturer confirmation.
16 V / 1000 ~ 12000 μF: the UR and surge voltage cells of these rows are blank on the original sheet; read as 16 V (surge 20 V), continuing the 16 V rows above — subject to manufacturer confirmation.
Custom products are available on request.
Voltage code for 6.3 V is 060 as specified by the manufacturer (2026-11-03).