

# CAPACITOR

## Aluminum Electrolytic Capacitor Series

### KLS10 - CD11H (GF) Series

High frequency low impedance

High frequency, low dissipation factor, low inductance and high ripple current. Load life: 105°C, 2000 hours.



Item	Characteristics											
Size and its tolerance 	D±1	10	12	16	19	22						
	F ± 0.5	5.0			7.5			10.0				
	d ± 0.1	0.6			0.8			1.0				
Operating Temp. Range	-40°C ~ +105°C											
Rated Working Voltage	6.3 ~ 250V											
Nominal Capacitance Range	0.47 ~ 6800 μ F											
Capacitance Tol.	± 20%											
Dissipation Factor tg δ	U <sub>R</sub>	6.3	10	16	25	35	50	63	100	160	250	
	tg δ	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08	0.06	0.06	
0.02 is added to every 1000 μ F increase over 1000 μ F.												
Leakage Current I <sub>L</sub>	I ≤ 0.03·C <sub>R</sub> ·U <sub>R</sub> ( μ A) or 3 μ A (whichever is greater) (1 minute)											
Temperature Characteristics (Impedance ratio at 100Hz)	U <sub>R</sub> (V)	6.3 ~ 10			16 ~ 35			50 ~ 250				
	Z-40°C/Z+20°C	4			3			2				
Load Life	At +105°C after applying rated voltage for 2000 hours and then resumed 16 hours:											
	ΔC	≤ ± 20% of initial measured value										
	DF(tg δ)	≤ 200% of initial specified value										
	LC(I <sub>L</sub> )	≤ initial specified value										
Shelf Life	At +105°C after storage for 1000 hours and then resumed 16 hours:											
	ΔC	≤ ± 20% of initial measured value										
	DF(tg δ)	≤ 200% of initial specified value										
	LC(I <sub>L</sub> )	≤ 200% of initial specified value										

Note: We can also provide the capacitors according to the customer's request.

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Nominal capacitance, rated voltage, impedance, rated ripple current and case size table

U <sub>R</sub>	6.3			10			16			25			35		
C <sub>R</sub>	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)
22													10 × 16	0.75	85
33										10 × 16	0.80	28	10 × 16	0.49	125
47							10 × 16	0.80	92	10 × 16	0.55	125	10 × 20	0.34	160
68				10 × 16	0.08	97	10 × 20	0.50	135	10 × 20	0.36	160	12 × 20	0.24	230
100	10 × 16	0.85	99	10 × 16	0.55	135	10 × 20	0.35	175	10 × 20	0.24	245	12 × 20	0.16	305
150	10 × 20	0.49	155	10 × 20	0.35	185	12 × 20	0.23	260	12 × 25	0.16	320	12 × 25	0.12	415
220	10 × 20	0.30	205	10 × 20	0.24	270	12 × 20	0.16	335	12 × 25	0.11	455	16 × 25	0.085	580
330	12 × 20	0.20	310	12 × 20	0.16	350	16 × 25	0.12	455	16 × 25	0.085	610	16 × 30	0.060	810
470	12 × 20	0.14	435	12 × 25	0.12	475	16 × 25	0.09	615	16 × 30	0.065	810	16 × 35	0.046	1130
680	16 × 25	0.10	605	16 × 25	0.085	660	16 × 30	0.065	845	16 × 30	0.046	1180	16 × 35	0.036	1370
1000	26 × 25	0.075	820	16 × 30	0.060	915	16 × 35	0.047	1210	19 × 30	0.036	1430	19 × 30	0.029	1710
1500	16 × 35	0.055	1090	19 × 30	0.045	1290	19 × 30	0.036	1490	19 × 40	0.029	1780	22 × 40	0.024	2120
2200	16 × 35	0.043	1320	19 × 30	0.034	1530	19 × 30	0.028	1800	19 × 40	0.024	2120			
3300	19 × 30	0.034	1530	19 × 35	0.026	1960	19 × 40	0.023	2160						
4700	19 × 35	0.028	1890	19 × 40	0.023	2170									
6800	22 × 40	0.024	2130												

U <sub>R</sub>	50			63			100			160			250		
C <sub>R</sub>	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)	DxL	Z 100KHz	(mA)
0.47	10 × 12	23.0	11				10 × 12	43.0	8	10 × 16	64.5	12	10 × 16	86.0	12
0.1	10 × 12	00.1	18				10 × 12	17.0	13	10 × 16	25.5	17	10 × 16	34.0	17
1.5	10 × 12	7.50	22				10 × 12	10.0	17	10 × 16	15.0	23	10 × 16	20.0	25
2.2	10 × 12	5.00	27				10 × 12	6.60	21	10 × 20	9.90	25	10 × 20	13.2	29
3.3	10 × 12	3.30	33				10 × 12	4.10	27	12 × 25	6.15	36	12 × 20	8.20	42
4.7	10 × 12	2.20	40				10 × 16	1.80	34	12 × 25	4.20	43	12 × 20	6.11	50
6.8	10 × 12	1.80	45				10 × 20	1.90	41	12 × 25	2.85	65	12 × 25	4.22	65
10	10 × 12	1.40	57	10 × 16	1.06	67	10 × 20	1.20	52	12 × 25	1.80	70	16 × 25	2.88	88
15	10 × 16	0.93	72	10 × 20	0.73	92	12 × 20	0.81	65	16 × 30	1.28	120	16 × 35	1.92	120
22	10 × 16	0.65	100	10 × 20	0.52	110	12 × 20	0.55	122	16 × 30	0.08	130	16 × 35	1.30	155
33	10 × 20	0.43	135	10 × 20	0.35	170	12 × 25	0.38	169	16 × 25	0.58	180	16 × 35	0.87	190
47	10 × 20	0.30	195	12 × 20	0.25	215	16 × 25	0.20	326	19 × 30	0.41	220	19 × 30	0.61	230
68	12 × 20	0.20	255	16 × 25	0.17	315	16 × 30	0.21	438	19 × 30	0.28	260	22 × 40	0.42	280
100	12 × 25	0.14	410	16 × 25	0.12	495	16 × 30	0.15	553	22 × 40	0.18	330	22 × 40	0.34	340
150	16 × 30	0.10	470	16 × 30	0.090	665	19 × 30	0.11	730						
220	16 × 30	0.075	760	16 × 30	0.065	835	19 × 30	0.087	1160						
330	16 × 30	0.055	995	16 × 35	0.049	1090	19 × 35	0.062							
470	19 × 30	0.044	1190	19 × 30	0.039	1420									
680	19 × 30	0.036	1530	22 × 40	0.032	1700									
1000	19 × 35	0.030	1830												

impedance      rated ripple current (+105°C, 100Hz)