

- Withstanding 2000 hours application of high ripple current at 105°C.
- Corresponding product to RoHS

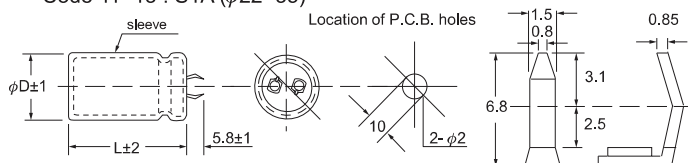


SPECIFICATION

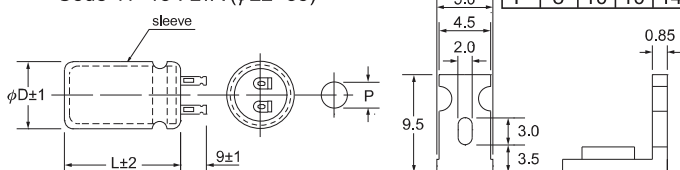
Item	Characteristic															
Operation Temperature Range	-40 ~ +105°C															
Rated Working Voltage	16 ~ 500VDC															
Capacitance Tolerance (120Hz 20°C)	±20%(M)															
Leakage Current (20°C)	I ≤0.02CV or 3 (mA) *Whichever is smaller after 5 minutes I : Leakage Current(μA) C : Rated Capacitance(μF) V : Working Voltage(V)															
Surge Voltage (20°C)	W.V.	16	25	35	50	63	80	100	160	180	200	250	350	400	450	500
	S.V.	20	32	44	63	79	100	125	200	225	250	300	400	450	500	550
Dissipation Factor (tan δ) (120Hz 20°C)	Rated Voltage (V)	16		25		35		50		63		80		100		≥160
	Capacitance	≤33,000	≥47,000	≤33,000	≥47,000	≤22,000	≥27,000	≤6,800	≥10,000	≤6,800	≥10,000	≤3,300	≥4,700	≤3,300	≥4,700	—
	tan δ	0.50	0.60	0.40	0.50	0.35	0.40	0.30	0.35	0.25	0.35	0.20	0.25	0.20	0.25	0.15
Low Temperature Stability	Impedance ratio at 120Hz															
	Rated Voltage (V)	16		25		35		50		63~100		160~250		350~500		
	-25°C / +20°C	6		6		6		4		3		4		6		
	-40°C / +20°C	15		15		10		8		6		—		—		
Load Life	After 2000 hours application of W.V. at +105°C the capacitor shall meet the following limits.															
	Capacitance Change	≤ ±20% of initial value														
	Dissipation Factor	≤175% of initial specified value														
	Leakage current	≤initial specified value														
Shelf Life	At +105°C, no voltage application after 1000 hours, the capacitor shall meet the limits for load life characteristics. (With voltage treatment)															

TERMINAL TYPE

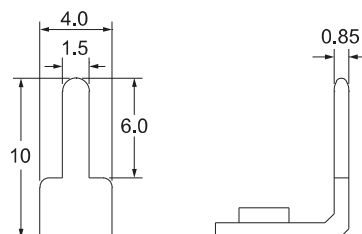
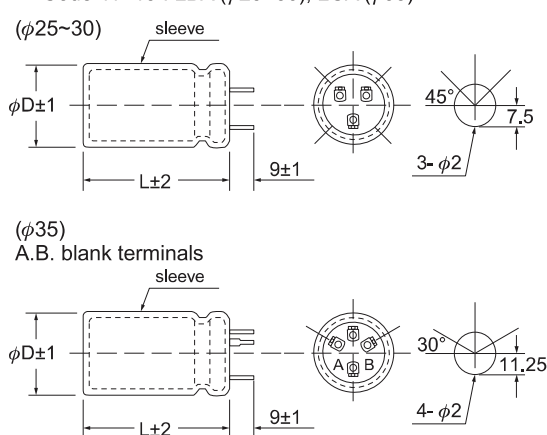
▲ P.C.B. TERMINAL (SNAP IN) Code 11~13 : S1A (φ22~35)



▲ LUG TERMINAL Code 11~13 : LTA (φ22~35)



▲ P.C.B. TERMINAL Code 11~13 : LBA (φ25~30), LCA (φ35)



RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	40	60	70	85	105
Multiplier	2.50	2.20	2.00	1.80	1.00

Frequency(Hz)	60	120	400	1k	10k
W.V.	Multiplier				
≤100V	0.80	1.00	1.10	1.20	1.20
≥160V	0.80	1.00	1.10	1.30	1.40

※ For φ45 dimension, refer to page 16.

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

μF	V(DC) φD	16					25					35					50				
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45
1500																	25				
																	1.05				
2200												25					30	25			
												1.17					1.31	1.25			
3300							25					30	25				35	30	25		
							1.34					1.43	1.36				1.58	1.52	1.50		
4700		25					30	25				35	30	25			45	35	30	25	
		1.36					1.58	1.51				1.65	1.58	1.56			1.90	1.74	1.73	1.86	
6800		35	30				35	30	25			50	40	30	25			50	35	30	
		1.74	1.67				1.85	1.78	1.75			2.09	1.94	1.82	1.96			2.19	1.98	2.15	
10000		45	35	25			45	35	30	25			50	35	30				45	40	
		2.09	1.92	1.77			2.19	2.01	2.00	2.15			2.24	2.03	2.20				2.39	2.62	
15000			45	35	30			45	35	30				50	40					50	
			2.29	2.17	2.36			2.54	2.41	2.61				2.79	2.92					3.52	
22000				45	35				45	40											55
				2.86	2.97				3.24	3.55											4.62
27000																50					65
																4.49					5.49
33000					50					50						55					
				4.21						4.78						5.16					
47000					50						50										
					5.24						5.24										
56000					55						60										L(mm)
					5.65						6.17										R.C.

μF	V(DC) φD	63					80					100					160				
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45
330																	25				
																	0.88				
390																	30	25			
																	1.03	1.03			
470																	30	25			
																	1.14	1.13			
560																	35	30	25		
																	1.32	1.33	1.38		
680																	40	35	25		
																	1.55	1.57	1.53		
820																	45	40	30	25	
																	1.79	1.82	1.80	1.84	
1000		25					30	25				30	25					45	35	25	
		0.91					1.04	0.99				1.11	1.06					2.12	2.12	2.04	
1200																		50	35	30	
																		2.43	2.32	2.39	
1500		30	25				35	30	25			40	35	25					45	35	
		1.14	1.08				1.28	1.23	1.21			1.44	1.39	1.29					2.88	2.84	
1800																				40	
																				3.28	
2200		35	30	25			50	40	30	25		45	35								
		1.40	1.35	1.33			1.72	1.60	1.50	1.61		1.77	1.68								
3300		45	40	30	25			50	40	30			45	35							50
		1.77	1.72	1.61	1.73			1.97	1.78	1.93			2.07	2.15							4.52
3900																					55
																					5.11
4700			50	35	30			50	40					45							
			2.03	1.84	2.00			2.11	2.31					2.52							
6800				45	40				50												
				2.20	2.41				2.72												
8200																	60				
																	3.27				
10000					50												65				
					2.87												3.73				
12000											60										
											3.95										
15000						60					65										
						3.95					4.57										
18000						65															L(mm)
						4.48															R.C.

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

μF	$V(DC)$ ϕD		180					200					250				
	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45		
220						25					30	25					
						0.85					0.91	0.91					
270	25					25					35	25					
	0.80					0.94					1.07	1.01					
330	30	25				30	25				35	30	25				
	0.95	0.95				1.12	1.12				1.19	1.20	1.24				
390	30	25				35	25				40	35	25				
	1.03	1.04				1.31	1.22				1.37	1.39	1.35				
470	35	30	25			40	30	25			50	40	30	25			
	1.21	1.22	1.27			1.52	1.45	1.50			1.66	1.61	1.59	1.63			
560	40	30	25			45	35	30				45	35	25			
	1.40	1.34	1.39			1.75	1.68	1.76				1.85	1.85	1.78			
680	45	35	30	25		50	40	30	25			50	35	30			
	1.63	1.57	1.64	1.68		2.02	1.96	1.94	1.98			2.14	2.04	2.10			
820	50	40	30	25			45	35	30				45	35			
	1.88	1.83	1.80	1.85			2.27	2.26	2.33				2.49	2.45			
1000		45	35	30			50	40	30					40			
		2.12	2.12	2.18			2.63	2.64	2.58					2.86			
1200			40	30				45	35					45			
			2.45	2.39				3.04	3.00					3.29			
1500			50	35					45					50			
			2.91	2.74					3.58					3.68			
1800				40					50								
				3.17					4.10								
2200																55	
																4.29	
2700										50						65	
										4.43						5.10	
3300					55					60							
					4.70					5.28							
3900					65											L(mm)	
					5.48											R.C.	

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 105°C 120Hz

μF	$\frac{V(DC)}{\phi D}$		350					400					450					500				
			22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45
47													25					25				
													0.39					0.27				
68								25					30	25				30	25			
								0.47					0.50	0.50				0.35	0.35			
82		25						30	25				35	30				35	30			
		0.43						0.56	0.56				0.59	0.60				0.41	0.41			
100		30	25					30	25				40	35	25			40	35	30		
		0.51	0.51					0.61	0.61				0.69	0.70	0.68			0.47	0.48	0.50		
120		30	25					35	30	25			45	35	30	25		50	40	35	25	
		0.55	0.55					0.72	0.73	0.75			0.80	0.77	0.80	0.82		0.57	0.56	0.59	0.56	
150		35	30	25				40	35	30				45	35	30			45	40	30	
		0.66	0.67	0.69				0.85	0.86	0.90				0.96	0.96	0.99			0.66	0.69	0.68	
180		40	35	30				45	40	30	25			50	35	30			50	40	35	
		0.77	0.78	0.82				0.98	1.00	0.99	1.01			1.10	1.05	1.08			0.75	0.76	0.79	
220		50	40	30	25				45	35	30				40	35				45	40	
		0.94	0.91	0.90	0.92				1.17	1.16	1.20				1.22	1.27				0.88	0.92	
270			45	35	30				50	40	30				50	40				50	45	
			1.07	1.06	1.10				1.35	1.36	1.33				1.49	1.48				1.02	1.07	
330			50	40	30					45	35					45					50	
			1.23	1.24	1.21					1.58	1.56					1.72					1.23	
390				45	35						40					50						
				1.42	1.40						1.79					1.96						
470					40						45											
					1.62						2.07											
560					45						50											
					1.86						2.36											
680																	55					
																	2.49					
820											50						65					
											2.72						2.93					
1000						55					60											
						2.59					3.24											
2200						65																L(mm)
						4.12																R.C.