

- Withstanding 2000 hours application of high ripple current at 85°C.
- Corresponding product to RoHS

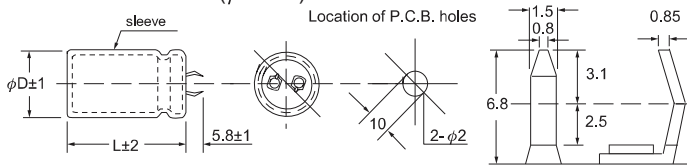


● SPECIFICATION

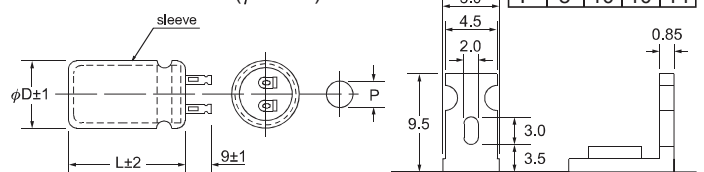
Item	Characteristic	
Operation Temperature Range	-40 ~ +85°C	
Rated Working Voltage	16 ~ 500VDC	
Capacitance Tolerance (120Hz 20°C)	±20%(M)	
Leakage Current (20°C)	$I \leq 0.02CV$ or 3 (mA) *Whichever is smaller after 5 minutes I : Leakage Current (μA) C : Rated Capacitance (μF) V : Working Voltage (V)	
Surge Voltage (20°C)	W.V.	16 25 35 50 63 80 100 160 180 200 250 350 350 400 450 500
	S.V.	20 32 44 63 79 100 125 200 225 250 300 400 400 450 500 550
Dissipation Factor (tan δ) (120Hz 20°C)	Rated Voltage (V)	16 25 35 50 63 80 100 ≥160
	Capacitance	≤47,000 ≥56,000 ≤33,000 ≥47,000 ≤22,000 ≥33,000 ≤6,800 ≥10,000 ≤6,800 ≥10,000 ≤2,200 ≥3,300 ≤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)	16~100 160~250 350~500
	-25°C / +20°C	4 6 8
	-40°C / +20°C	15 — —
Load Life	After 2000 hours application of W.V. at +85°C the capacitor shall meet the following limits.	
	Capacitance Change	≤ ±15% of initial value
	Dissipation Factor	≤ 175% of initial specified value
	Leakage current	≤ initial specified value
Shelf Life	At +85°C, no voltage application after 1000 hours, the capacitor shall meet the limits for load life characteristics. (With voltage treatment)	

● TERMINAL TYPE

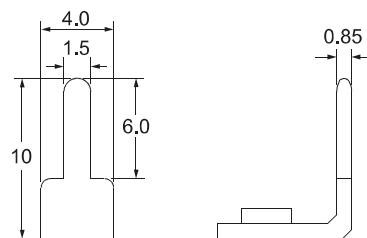
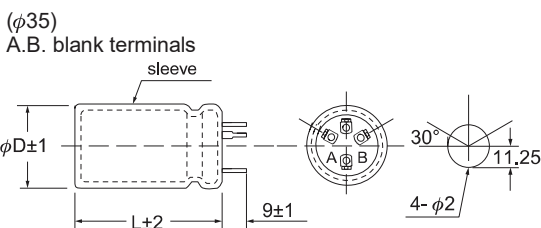
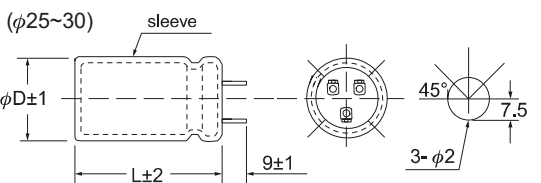
▲ P.C.B. TERMINAL (SNAP IN) Code 11~13 : S1A (φ22~35)



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



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



※ For φ45 dimension, refer to page 16.

● RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	40	60	70	85
Multiplier	1.80	1.40	1.20	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

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

● CASE SIZE & MAX RIPPLE CURRENT

μF	V(DC) φD	16					25					35							
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45			
3300												25							
												2.04							
4700							25					30	25						
							2.25					2.41	2.23						
6800		25					30	25				35	30	25					
		2.40					2.69	2.56				2.82	2.70	2.66					
10000		30	25				35	30	25			45	35	30	25				
		2.81	2.67				3.09	2.97	2.92			3.34	3.06	3.04	3.28				
15000		40	30	25			45	35	30	25			50	35	30				
		3.43	3.11	3.07			3.70	3.39	3.37	3.63			4.06	3.67	3.98				
22000			45	30	25			45	35	30				45	40				
			4.25	3.78	4.09			4.48	4.25	4.61				4.94	5.41				
33000				45	35				50	40					50				
				5.48	5.67				6.05	6.33					7.27				
56000																			55
																			10.27
68000																			60
												55							11.73
82000																			50
																			10.83
100000																			60
																			12.90
																			L(mm)
																			R.C.

μF	V(DC) φD	50					63					80					100										
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45						
1000																25					30	25					
																1.50						1.71	1.63				
1200																						35	30				
																						2.01	1.93				
1500							25									30	25					35	30	25			
							1.66									1.88	1.79					2.11	2.03	2.00			
1800																						45	35	30			
																						2.59	2.37	2.35			
2200		25					30	25								40	30	25				50	40	30	25		
		1.92					2.08	1.98								2.45	2.22	2.19				2.84	2.64	2.47	2.66		
3300		30	25				35	30	25							50	40	30	25				50	40	30		
		2.35	2.24				2.51	2.41	2.38							3.05	2.83	2.65	2.86				3.25	3.11	3.19		
4700		35	30	25			45	35	30	25							50	40	30					50	40		
		2.72	2.62	2.58			3.04	2.79	2.77	2.99						3.36	3.21	3.30						3.65	3.82		
6800		50	40	30	25			50	35	30							50	40							50		
		3.45	3.20	3.00	3.23			3.53	3.19	3.46							3.80	3.98								4.48	
10000			50	35	30				45	40																	
			3.70	3.35	3.64					3.72	4.08																
12000																											60
																											5.83
15000				50	40					50																	70
				4.61	4.83					5.30																	6.96
18000					45																						
					5.55																						
22000					50																						
					6.42																						
27000																											
33000																											
39000																											
																											L(mm)
																											R.C.

LARGE CAN TYPE

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

μF	V(DC) φD	160					180					200					250						
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45		
220																25							
																1.25					1.31		
270																25				30	25		
																1.67				1.57	1.57		
330																25				35	30		
																1.31				1.85	1.87		
390																30	25			35	30	25	
																1.44				1.54	1.54		
470																30	25			35	30	25	
																1.70	1.70			1.69	1.69		
560																35	30	25		40	35	25	
																1.99	2.23			1.97	1.99	2.06	
680																40	30	25		45	35	30	
																2.32	2.21	2.29		2.30	2.34	2.27	
820																45	35	30	25	40	30	25	
																2.68	2.58	2.70		2.67	2.72	2.68	2.75
1000																50	40	30	25	50	35	30	
																3.11	3.02	2.98	3.05		3.16	3.15	3.04
1200																							
1500																							
1800																							
2200																							50
																							5.81
2700																							60
																							6.94
3300																							
3900																							
4700																							L(mm)
																							R.C.

LARGE CAN TYPE

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
 Max ripple current : A (rms)
 (R.C.) : 85°C 120Hz

μF	V(DC) φD	350					400					450					500				
		22	25	30	35	45	22	25	30	35	45	22	25	30	35	45	22	25	30	35	45
82							25					30	25				35	30	25		
							0.76					0.83	0.83				0.73	0.74	0.76		
100		25					30	25				35	30	25			40	30	25		
		0.73					0.91	0.91				0.97	0.98	1.02			0.85	0.81	0.84		
120		30	25				30	25				40	30	25			45	35	30		
		0.86	0.86				1.00	1.00				1.13	1.08	1.12			0.99	0.95	0.99		
150		30	25				35	30	25			45	35	30			50	40	35	30	
		0.96	0.96				1.19	1.20	1.25			1.33	1.28	1.34			1.15	1.12	1.18	1.22	
180		35	30	25			40	35	25			50	40	30	25			45	40	30	
		1.13	1.14	1.18			1.38	1.40	1.37			1.53	1.49	1.47	1.50			1.30	1.37	1.33	
220		40	35	25			50	40	30	25			45	35	30			50	45	35	
		1.32	1.34	1.30			1.69	1.64	1.62	1.66			1.73	1.72	1.78			1.50	1.59	1.57	
270		50	40	30	25			45	35	30				40	35				50	45	
		1.61	1.57	1.55	1.59			1.92	1.91	1.97				2.02	2.10				1.84	1.92	
330			45	35	30			50	40	30				45	35						45
			1.82	1.82	1.88			2.22	2.23	2.18				2.35	2.32						2.13
390			50	40	30				45	35					40						50
			2.08	2.10	2.04				2.55	2.52					2.66						2.42
470				40	35					40					45						
				2.30	2.38					2.92					3.07						
560				50	40					45											
				2.76	2.75					3.34											
680					45					50						50					
					3.18					3.85						3.70					
820											50					55					
											4.06					4.22					
1000					50						55										
					4.14						4.66										
1500					60																L(mm)
					4.43																R.C.

LARGE CAN TYPE