

# Green-Cap (ELECTRIC DOUBLE LAYER CAPACITORS)

Upgrade

**DH** Threaded Terminal Type,  
High Power Density Type

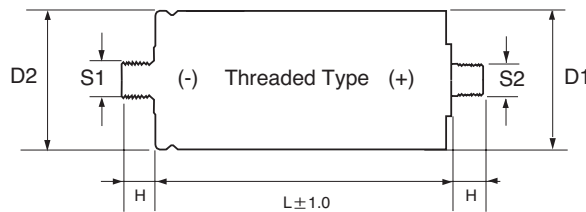
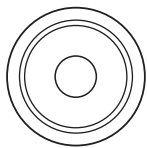
- High Power Density
- Rapid charge and discharge
- Ultra-low internal resistance



Item	Characteristics	
Operating temperature range	-40 ~ 65°C	
Rated Voltage	2.7 VDC	
Capacitance tolerance	0% ~ +20%	
Temperature characteristics	Capacitance change	Within $\pm 5\%$ of initial value at +20°C
	Internal resistance	Within 150% of initial value at +20°C
Endurance (65°C)	Test time	1500 hours
	Capacitance change	Within $\pm 30\%$ of initial specified value
	Internal resistance	Less than 100% of initial specified value
Shelf life (70°C)	After 1500 hours no load test same as endurance	
Life Time at RT <sup>(1)</sup>	10 years	(1) $I \Delta CI < 30\%$ and $\Delta ESR < 200\%$ of initially specified value, respectively and $LC <$ specified value
Cycle Life (25°C) <sup>(1)(2)</sup>	500,000 cycles	(2) Cycle : between rated voltage and half rated voltage under constant current at 25°C

## ● DRAWING

Unit : mm



Size(mm)		
H	D1	D2
( $\pm 0.2$ )	( $\pm 0.2$ )	( $\pm 0.5$ )
13.0	$\varnothing 60.4$	$\varnothing 60.7$

Terminal Configurations		
Code	S1	S2
TH 100	M12×1.75	M12×1.75
TH 200	M16×2.0	M12×1.75

## ● CHARACTERISTIC LIST & DIMENSIONS

Rated Voltage	Capacitance (F)	ESR, 1KHz (mΩ)	ESR, DC (mΩ)	LC (72hr) (mA)	Max Continuous Current(A)	Max Peak Current(A)	Specific Energy		Weight (g)	Volume (ml)	Dimension $\varnothing D \times L$ (mm)
							(Wh/kg)	(Wh/L)			
2.7	1200	0.35	0.50	2.7	63	955	3.86	5.73	315	212	60.4 × 74
	1600	0.30	0.45	3.0	85	1233	4.63	6.65	350	244	60.4 × 85
	2000	0.25	0.35	4.2	106	1588	4.94	6.93	410	292	60.4 × 102
	3000	0.20	0.28	5.2	150	1975	5.63	7.68	540	395	60.4 × 138

Upgrade

# DH

Weldable Terminal Type,  
High Power Density Type

- High Power Density
- Rapid charge and discharge
- Ultra-low internal resistance

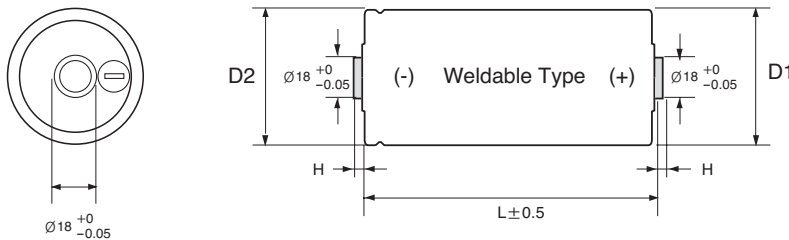


Green-Cap (EDLC)

Item	Characteristics	
Operating temperature range	-40 ~ 65°C	
Rated Voltage	2.7 VDC	
Capacitance tolerance	0% ~ +20%	
Temperature characteristics	Capacitance change	Within ±5% of initial value at +20°C
	Internal resistance	Within 150% of initial value at +20°C
Endurance (65°C)	Test time	1500 hours
	Capacitance change	Within ±30% of initial specified value
	Internal resistance	Less than 100% of initial specified value
Shelf life (70°C)	After 1500 hours no load test same as endurance	
Life Time at RT <sup>(1)</sup>	10 years	(1) $I\Delta C < 30\%$ and $\Delta ESR < 200\%$ of initially specified value, respectively and $LC <$ specified value
Cycle Life (25°C) <sup>(1)(2)</sup>	500,000 cycles	(2) Cycle : between rated voltage and half rated voltage under constant current at 25°C

## ● DRAWING

Unit : mm



Size(mm)		
H	D1	D2
(±0.2)	(±0.2)	(±0.5)
3.0	∅60.4	∅60.7

## ● CHARACTERISTIC LIST & DIMENSIONS

Rated Voltage	Capacitance (F)	ESR, 1KHz (mΩ)	ESR, DC (mΩ)	LC (72hr) (mA)	Max Continuous Current(A)	Max Peak Current(A)	Specific Energy		Weight (g)	Volume (ml)	Dimension ∅D×L(mm)
							(Wh/kg)	(Wh/L)			
2.7	1200	0.35	0.50	2.7	63	955	3.92	5.73	310	212	60.4 × 74
	1600	0.30	0.45	3.0	85	1233	4.70	6.65	345	244	60.4 × 85
	2000	0.25	0.35	4.2	106	1588	4.94	6.93	410	292	60.4 × 102
	3000	0.20	0.28	5.2	150	1975	5.68	7.68	535	395	60.4 × 138

# Green-Cap (ELECTRIC DOUBLE LAYER CAPACITORS)

**DB** Snap-in Terminal Type, Standard Series

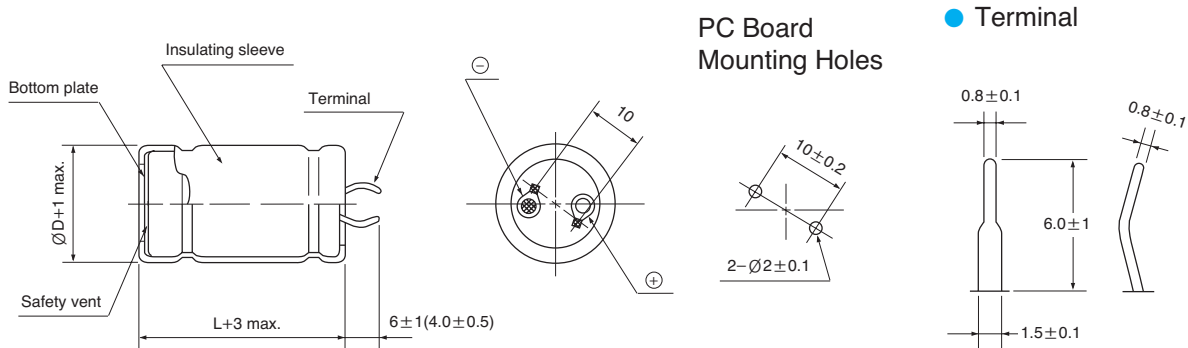


- Endurance : 2.5V 70°C 1000 hours, 2.7V 60°C 1000 hours
- The middle size and high capacitance, low resistance
- Charge and discharge efficiency are higher than in batteries

Item	Characteristics	
Operating temperature range	-25 ~ +70°C	-40 ~ +60°C
Rated Voltage	2.5 VDC	2.7 VDC
Capacitance tolerance	-20 ~ +20% or 0% ~ +20%	
Temperature characteristics	Capacitance change	Within ±5% of initial value at +20°C
	Internal resistance	Within 150% of initial value at +20°C
Endurance(2.5V:70°C, 2.7V:60°C)	Test time	1000 hours
	Capacitance change	Within ±30% of initial specified value
	Internal resistance	Less than 100% of initial specified value
Shelf life(2.5V:70°C, 2.7V:60°C)	After 1000 hours no load test same as endurance	
Life Time at RT <sup>(1)</sup>	10 years	(1) $ \Delta C  < 30\%$ and $\Delta ESR < 200\%$ of initially specified value, respectively and $LC <$ specified value
Cycle Life (25°C) <sup>(1)(2)</sup>	500,000 cycles	(2) Cycle : between rated voltage and half rated voltage under constant current at 25°C

## DRAWING

Unit : mm



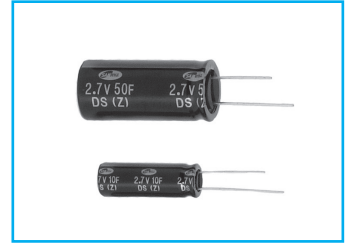
## CHARACTERISTIC LIST & DIMENSIONS

Rated Voltage	Capacitance (F)	ESR, 1KHz (mΩ)	ESR, DC (mΩ)	LC (72hr) (mA Max.)	Max Continuous Current(A)	Max Peak Current(A)	Specific Energy		Weight (g)	Volume (ml)	Dimension $\varnothing D \times L$ (mm)
							(Wh/kg)	(Wh/L)			
2.5	100	15.0	35.0	0.25	5.3	27.7	3.62	5.07	24	17	22 × 45
	200	10.0	20.0	0.50	10.4	50.0	4.13	5.46	42	32	30 × 45
	300	6.0	15.0	0.75	15.3	68.2	4.20	5.41	62	48	35 × 50
	360	6.0	12.0	0.90	18.5	84.6	4.17	5.41	75	58	35 × 60
	400	6.0	10.0	1.00	20.8	100.0	4.63	6.01	75	58	35 × 60
2.7	100	8.0	10.0	0.27	6.4	67.5	4.82	5.92	21	17	22 × 45
	200	7.0	9.0	0.54	12.3	96.4	5.33	6.37	38	32	30 × 45
	300	3.5	5.0	0.91	18.8	162.0	5.33	6.31	57	48	35 × 50
	360	3.2	3.8	0.97	22.7	205.2	5.21	6.31	70	58	35 × 60
	400	3.2	3.8	1.08	25	214.2	5.79	7.02	70	58	35 × 60

※  $\varnothing 35$  4 pin type terminal drawing is same see pages 178.

## DS Radial Type, Standard Series

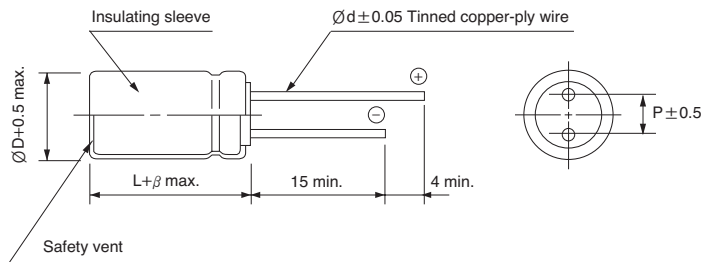
- Endurance : 2.5V 70°C 1000 hours, 2.7V 60°C 1000 hours
- The small size and high capacitance, low resistance
- Can be charge and discharge more times than secondary batteries
- OEM product



Item	Characteristics	
Operating temperature range	-25 ~ +70°C	-40 ~ +60°C
Rated Voltage	2.5 VDC	2.7 VDC
Capacitance tolerance	-20 ~ +20%	
Temperature characteristics	Capacitance change	Within $\pm 5\%$ of initial value at +20°C
	Internal resistance	Within 150% of initial value at +20°C
Endurance (2.5V:70°C, 2.7V:60°C)	Test time	1000 hours
	Capacitance change	Within $\pm 30\%$ of initial specified value
	Internal resistance	Less than 100% of initial specified value
Shelf life (2.5V:70°C, 2.7V:60°C)	After 1000 hours no load test same as endurance	
Life Time at RT <sup>(1)</sup>	10 years	(1) $ \Delta C  < 30\%$ and $\Delta ESR < 200\%$ of initially specified value, respectively and $LC < \text{specified value}$
Cycle Life (25°C) <sup>(1)(2)</sup>	500,000 cycles	(2) Cycle : between rated voltage and half rated voltage under constant current at 25°C

### DRAWING

Unit : mm



ØD	8	10	16	18
P	3.5	5	7.5	7.5
Ød	0.6	0.6	0.8	0.8
β	1.5	2.0		

### CHARACTERISTIC LIST & DIMENSIONS

Rated Voltage	Capacitance (F)	ESR, 1KHz (mΩ)	ESR, DC (mΩ)	LC (72hr) (mA Max.)	Specific Energy		Specific Power		Weight (g)	Volume (ml)	Dimension ØD×L(mm)
					(Wh/kg)	(Wh/L)	(W/kg)	(W/L)			
2.5	3	140	350	0.008	1.63	2.59	1,339	2,132	1.6	1.0	8×20
	5	110	250	0.013	1.97	2.76	1,364	1,910	2.2	1.6	10×20
	10	65	120	0.025	2.48	3.68	1,786	2,653	3.5	2.4	10×30
	25	35	65	0.063	2.89	4.32	1,538	2,296	7.5	5.0	16×25
	60	20	30	0.150	3.77	5.12	1,812	2,456	13.8	10.2	18×40
2.7	3	60	90	0.008	2.17	3.02	6,943	9,669	1.4	1.0	8×20
	5	50	70	0.014	2.41	3.22	5,951	7,956	2.1	1.6	10×20
	10	30	50	0.027	3.49	4.30	6,033	7,426	2.9	2.4	10×30
	25	20	35	0.068	3.78	5.04	3,730	4,972	6.7	5.0	16×25
	50	10	20	0.140	4.40	4.97	3,803	4,297	11.5	10.2	18×40