

# Electric Double Layer Capacitor

## SPL Series - Lead Terminal

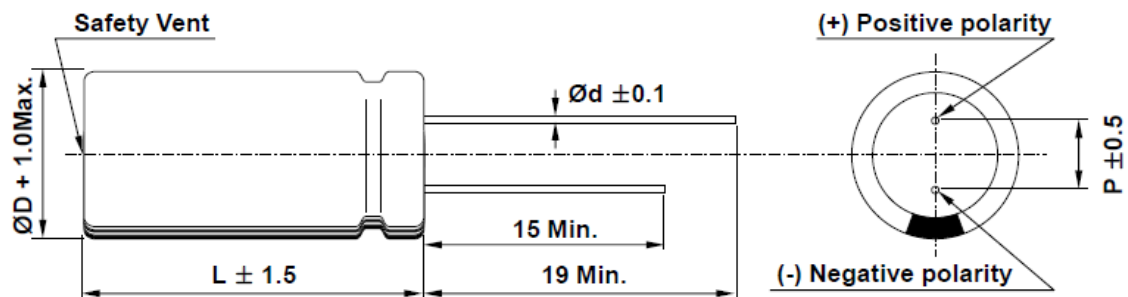
### 1. Features

- High power density (Low ESR)
- Over 500,000 cycle life (semi-permanent)
- Short-term Peak Power assist applications
- RoHS Compliant

### 2. Specifications

Item	Performance Characteristics	
Operating Temperature	-40 ~ +65°C	
Rated Voltage Range	2.7V / 3.0V	
Capacitance Tolerance	-10 ~ +30%	
High Temperature Load Life	After 1,000 hours at $V_R$ loaded under +65°C, capacitors meet the following criteria.	
	Capacitance change	≤ 30% of initial value
	ESR	≤ 2 times of specified value
	85°C Higher Temperature	Max. 2.3V / 2.4V
Cycle Life Characteristics	Cycle	Over 500,000
	$\Delta C$	≤ 30% of initial value
	ESR	≤ 2 times of specified value
	Method	Cycle of Charge/discharge from $V_R$ to $1/2V_R$
Shelf Life	2 Years	
	No Electrical Charge, Temperature below 70°C	
	$(\Delta C : \leq 10\%$ of the initial value / $\Delta ESR : \leq 50\%$ of specified value)	

### 3. Outline and Dimension



Unit : mm

$\phi D$	8	10, 13	16, 18
$\phi d$	0.6		0.8
P	3.5	5.0	7.5

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### 4. Part Number Coding Rule

SPL	10F		2.7V		611		TB5		□□
Series	Capacitance		Rated voltage		Size		Packaging		Reserved
EDLC, Lead Terminal	Capacitance	Code	Voltage	Code	Size	Code	Style	Code	
	1F	1F	2.7V	2.7V	8 x 13	813	Lead Cut (length mm)	C(L)	
	1.5F	1.5F	3.0V	3V	8 x 20	820	Tape/Ammo (pitch mm)	TB(P)	
	5F	5F			10 x 20	1020			
	10F	10F			10x 25	1025			
	25F	25F			13 x 25	1325			
	50F	50F			16 x 25	1625			
	60F	60F			18x 40	1840			

### 5. Standard Ratings

Rated voltage (V)	Rated Capacitance (F)	ESR (mΩ)		Max Current (A)	Leakage Current (mA, 72hr)	Size (mm)
		AC(1kHz)	DC			D x L
2.7	1	130	195	1.0	0.002	8 x 13
	1.5	80	120	1.5	0.003	8 x 20
	3.3	55	95	3.0	0.007	8 x 20
	5	35	60	5.0	0.010	8 x 25
	5	55	85	4.5	0.010	10 x 20
	7	30	50	6.5	0.014	8 x 30
	7	55	95	5.5	0.014	10 x 20
	7	25	40	7.0	0.014	10 x 25
	10	30	45	9.0	0.020	10 x 25
	10	25	35	10.0	0.020	10 x 30
	10	35	55	8.5	0.020	13 x 20
	15	25	40	12.5	0.030	13 x 25
	18	25	40	14.0	0.036	13 x 25
	25	17	26	20.0	0.050	16 x 25
	50	11	17	36.5	0.100	18 x 40
	60	11	17	40.0	0.120	18 x 40

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Rated voltage (V)	Rated Capacitance (F)	ESR (mΩ)		Max Current (A)	Leakage Current (mA, 72hr)	Size (mm)
		AC(1kHz)	DC			D x L
3.0	1	145	220	1.0	0.003	8 x 13
	1.5	95	140	1.5	0.005	8 x 20
	3.3	70	105	3.5	0.010	8 x 20
	5	40	70	5.5	0.015	8 x 25
	5	65	100	5.0	0.015	10 x 20
	7	65	110	5.5	0.021	10 x 20
	10	35	60	9.0	0.030	10 x 25
	10	25	40	10.0	0.030	10 x 30
	15	30	45	13.0	0.045	13 x 25
	25	20	30	21.0	0.075	16 x 25
	50	12.5	19	38.0	0.150	18 x 40
	60	12.5	19	42.0	0.180	18 x 40

\* Max. Current : 1 sec discharge to  $1/2V_R$

\* Please contact us if the rating data of request item did not show in above.