

SUPERCAPACITORS ELECTRODE FILMS

SGF145SSE, SGF145SE, SGF200SE

FEATURES AND BENEFITS	TYPICAL APPLICATIONS
<ul style="list-style-type: none"> ➤ High energy density ➤ Good uniformity ➤ Easy adapted to your current manufacturing facilities ➤ Cost-effective ➤ Customization available 	<ul style="list-style-type: none"> ➤ Supercapacitors ➤ Hybrid capacitors

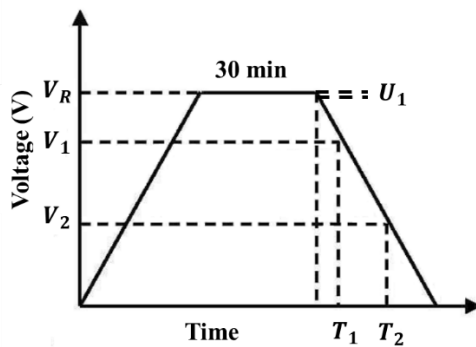
SPECIFICATIONS

	UNIT	SGF145SSE	SGF145DSE	SGF200DSE
Type		Single side	Double side	Double side
Thickness	µm	145	145	200
Width	cm	23	23	23
Length	m	50-1500	50-1500	50-1500
Area loading	mg/cm ²	7.6	7.6	11.2
Uniformity	µm	±3	±3	±5
Areal capacitance ^a	F/cm ²	0.184	0.184	0.272
Volumetric capacitance ^{a,b}	F/cm ³		16	
Operating Temperature Range:				
Minimum	°C		-40	
Maximum	°C		65	
Storage Temperature Range:				
Minimum	°C		-40	
Maximum	°C		65	
Lifetime at RT ^c	Years		10	
Capacitance Change			≤30%	
ESR Change			≤200%	
Lifetime at High Temperature (65°C) ^c	Hours		1000	

Capacitance Change		≤20%
ESR Change		≤100%
Cycle Life at RT ^c	Cycles	500,000
Capacitance Change		≤20%
ESR Change		≤100%

NOTES

- a. Capacitance is measured with symmetric cell of two pieces of identical electrode film (10 cm²) with TEATFB/PC electrolyte. Constant current ($4 \times C \times V_R$) is used to charge the cell to rated voltage, and the voltage is held for 30 mins, before constant current ($4 \times C \times V_R$) discharge to 0.1 V.



$$C = I \times \frac{T_2 - T_1}{V_1 - V_2}$$

Where V_R is the rated voltage;

V_1 is 80% of V_R ; V_2 is 40% of V_R ;

T_1 and T_2 are the corresponding time for V_1 and V_2 , respectively;

Areal capacitance $C_A = C/A$,

where A is the area of two electrodes (20 cm²)

- b. Volumetric capacitance $C_V = C/V$
 Where V is the volume of two electrodes
- c. Lifetime will vary depends on applications of supercapacitors.