LICAP

2.7V, 1200F Ultracapacitor Cell

SC1200-270-ASC

APPLICATIONS

- Engine Starting
- Industrial Backup Power
- Renewable Energy Systems
- Hybrid Power Systems
- Energy Harvesting

FEATURES & ADVANTAGES

- One Million Cycles Lifetime
- Exceptional Low Temperature Performance
- Ultra High Power Density
- Ultra Low Internal Resistance
- 10-15 year calendar life

Specifications

Capacitance	Rated[1]	1200F
	Tolerance	-0/+20%
Voltage	Rated	2.7V DC
	Surge[2]	2.85V DC
ESR	ESR (DC) - typical	0.40mΩ
	ESR (DC) - maximum initial	0.58mΩ
Current	Maximum leakage[3]	2.7mA
	Maximum peak	950A
	Maximum continuous current (ΔT = 15°C)[4]	70A RMS
	Maximum continuous current (ΔT = 40°C)[4]	110A RMS
Energy Storage	Maximum energy[5]	1.22Wh
	Usable energy[6]	0.91Wh
	Volumetric energy density[7]	5.06Wh/L
	Gravametric energy density[8]	3.65Wh/kg
Power Density	Power density[9]	6033W/kg

Temperature

Temperature Characteristics	Operating Temperature Range[10]	-40°C to +65°C
	Storage Temperature Range	-50°C to +70°C

Standards, Safety & Environmental

Safety	Short Circuit Current	4600A
	• This product may vent or rupture if overcharged, reverse charged incinerated or heated above 100°C • Do not crush, mutilate, or disassemble • Do not dispose of unit in trash	

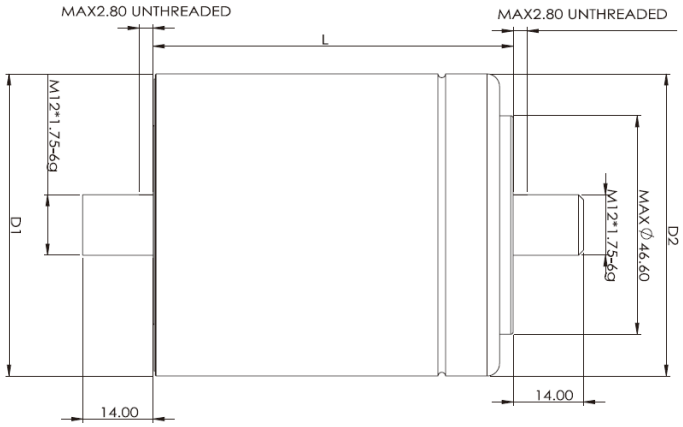
Service Lifetime

Endurance	**Product held at rated voltage in 65°C environment for 1500 hours**	
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
DC Life	**Product held at rated voltage in 25°C environment**	
	Projected Life	10+ years
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
Cycle Life	**Cycling from rated voltage to 50% voltage under constant current in 25°C environment**	
	Projected Life	1,000,000 cycles
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
Storage Life	**Stored uncharged in original packaging in 25°C environment**	
	Life	4 years

Physical Characteristics

Mechanical	Operation Vibration	IEC60068-2-6, SAE J380
	Impact	IEC60068-2-27, SAE J2464

Outline Drawings:



Weight and Size:

Weight: 250g | Size: 63.2 L/mm, 60.2 D/mm

Naming Rules:

Type		Capacitance	Dash	Rated Voltage	Dash	Termination
SC	Supercapacitor Cell	1200 = 1200F	-	270 = 2.7V	-	ASC = Axial Screw

Notes:

1. Measure capacitance and DC internal resistance at 25°C under specified test current per Figure 1

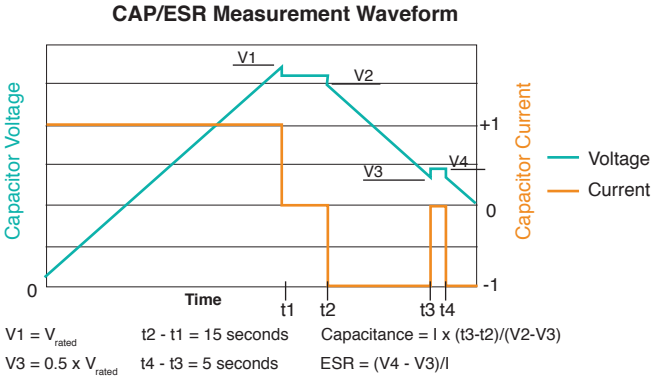


Figure 1

2. Surge voltage is non-repeatable and duration cannot exceed 1s
3. Corresponding current value after 72 hours of rated voltage at 25°C
4. $\Delta T = I_{rms}^2 \times ESR \times R_{ca}$
5. $0.5CV^2/3600$
6. $0.5C(V_{nom}^2 - V_{min}^2)/3600$
7. $Wh_{usable} / \left(\frac{\pi r^2(mm) \times L(mm)}{1x10^6}\right)$
8. Wh_{usable}/weight(kg)
9. Per IEC62391-2 $P_d = \frac{0.12V^2}{ESR_{DC} \times weight(kg)}$
10. Test after the sample has been maintained at -50°C for 16 hours and the temperature raised 10°C each time and maintained for 1 hour, then test the sample Figure 2

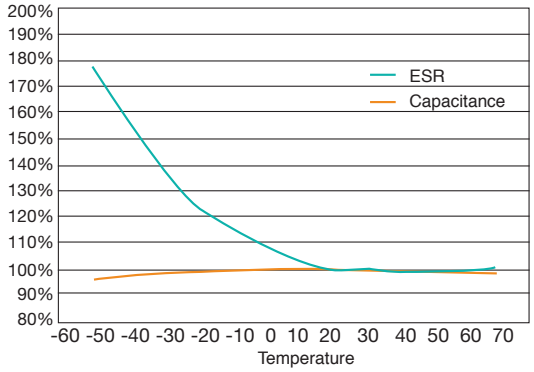


Figure 2

Axial weldable version available, please contact LICAP for details

Specifications are subject to change without notice.