

## LC0800-380-ASW



### APPLICATIONS

- Start-up Power supply
- Industrial Backup Power
- Energy Harvesting
- Remote Power Supply
- Peak Load Shaving

### FEATURES & ADVANTAGES

- 1M Cycles Lifetime
- 10 Years Calendar Life
- Low Self-Discharge
- Safe: No Thermal Runaway
- High Power Density



### Specifications

Capacitance	Rated <sup>1</sup>	800F
	Minimum initial	800F
Voltage	Nominal	3.8V DC
	Minimum	2.2V DC
	Maximum <sup>2</sup>	4.2V DC
ESR	Typical <sup>1</sup>	12mΩ
	Maximum initial	15mΩ
Current	Maximum continuous current ( $\Delta T = 15^\circ\text{C}$ ) <sup>3</sup>	25 RMS
	Maximum continuous current ( $\Delta T = 40^\circ\text{C}$ ) <sup>3</sup>	60 RMS
Energy Storage	Max energy <sup>4</sup>	1.6Wh
	Usable energy <sup>5</sup>	1.1Wh
	Volumetric energy density <sup>6</sup>	18.3Wh/liter
	Gravametric energy density <sup>7</sup>	9.3Wh/kg
Self Discharge	Voltage drop after 3 months at 25°C	<15%

### Temperature

Temperature Characteristics	Operating Temperature Range	-10°C to +65°C
	Storage Temperature Range	-10°C to +70°C

### Standards, Safety & Environmental

Safety	Short Circuit Current	253A
	<ul style="list-style-type: none"> <li>• This product may vent or rupture if overcharged, reverse charged, incinerated or heated above 100°C</li> <li>• Do not crush, mutilate, or disassemble</li> <li>• Do not dispose of unit in trash</li> </ul>	

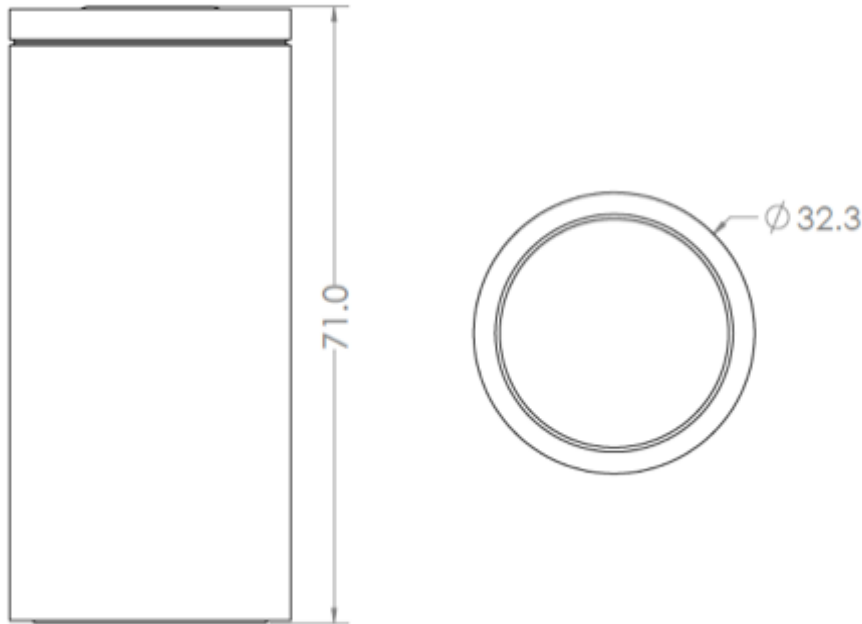
### Service Lifetime

Endurance	<b>Product held at nominal voltage in 65°C environment for 2000 hours</b>	
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
DC Life	<b>Product held at rated voltage in 25°C environment</b>	
	Life (projected)	10+ years
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
Cycle Life	<b>Cycling from <math>V_{nom}</math> to <math>V_{min}</math> under constant current in 25°C environment</b>	
	Life (projected)	>1M cycles
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
Storage Life	<b>Stored uncharged in original packaging in 25°C environment</b>	
	Life	4 years

### Physical Characteristics

Mechanical	Vibration	IEC60068-2-6, SAE J380
	Shock	IEC60068-2-27, SAE J2464

### Outline Drawings:



### Weight and Size:

**Weight: 115g | Size: 71.0 L/mm, 32.3 D/mm**

### Naming Rules:

Type	Capacitance	Dash	Rated Voltage	Dash	Termination	
LC	Lithium Ion Capacitor Cell	0800 = 800F	-	380 = 3.8V	-	ASW = Axial Spot Weld

### Notes:

1. Measure capacitance and DC internal resistance at 25°C under 10A CC test current per Figure 1
2. Maximum voltage is non-repeatable and duration cannot exceed 1s

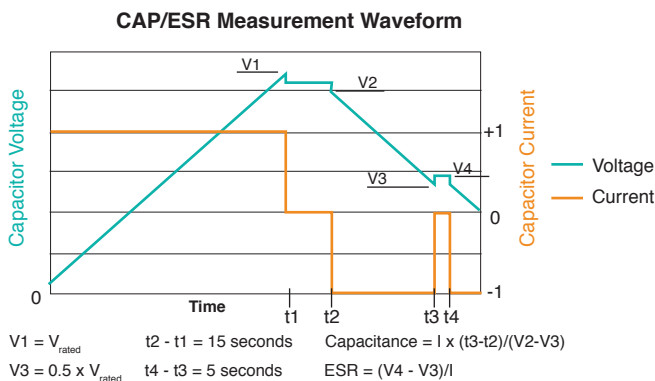


Figure 1

3.  $\Delta T = I_{\text{rms}}^2 \times \text{ESR} \times R_{\text{ca}}$
4.  $0.5C(V_{\text{nom}}^2) / 3600$
5.  $0.5C(V_{\text{nom}}^2 - V_{\text{min}}^2) / 3600$
6.  $Wh_{\text{usable}} / \left( \frac{\pi r^2 (\text{mm}) \times L (\text{mm})}{1 \times 10^6} \right)$
7.  $Wh_{\text{usable}} / \text{weight} (\text{kg})$

 Specifications are subject to change without notice.