

## LC0200-380-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>	200F
	Minimum initial	200F
Voltage	Nominal	3.8V DC
	Minimum	2.2V DC
	Maximum <sup>2</sup>	4.2V DC
ESR	Typical	30mΩ
	Maximum initial	50mΩ
Current	Maximum continuous current ( $\Delta T = 15^{\circ}\text{C}$ ) <sup>3</sup>	9A RMS
	Maximum continuous current ( $\Delta T = 40^{\circ}\text{C}$ ) <sup>3</sup>	25A RMS
Energy Storage	Max energy <sup>4</sup>	0.4Wh
	Usable energy <sup>5</sup>	0.27Wh
	Volumetric energy density <sup>6</sup>	15.4Wh/liter
	Gravimetric energy density <sup>7</sup>	8.9Wh/kg
Self Discharge	Voltage drop after 6 months at 25°C	<14%

### 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	76A
	<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

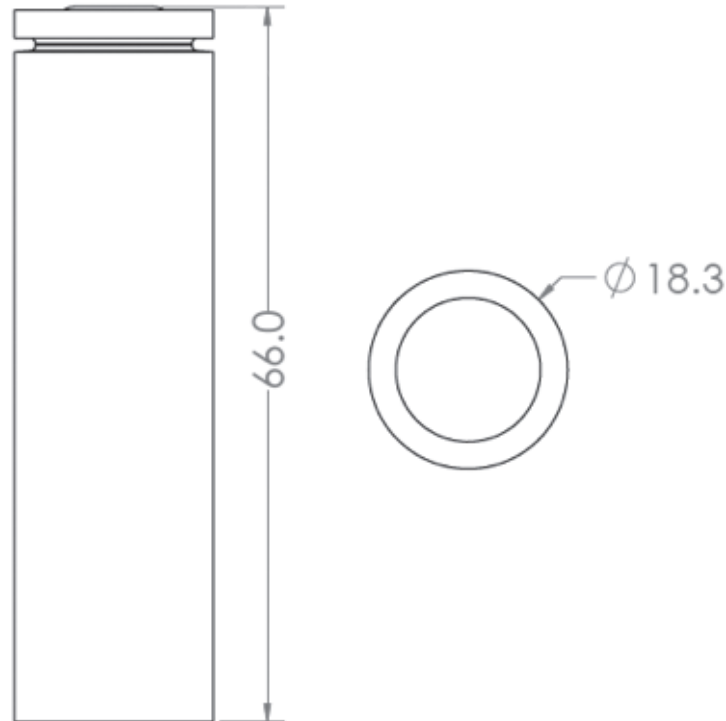
Endurance	<b>Product held at nominal voltage in 65°C environment for 1000 hours</b>	
	Change in capacitance (% drop from rated)	≤20%
	Change in ESR (% increase from maximum initial)	≤100%
DC Life	<b>Product held at rated voltage in 25°C environment</b>	
	Life (projected)	10+ years
	Change in capacitance (% 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: 30g | Size: 66.0 L/mm, 18.3 D/mm**

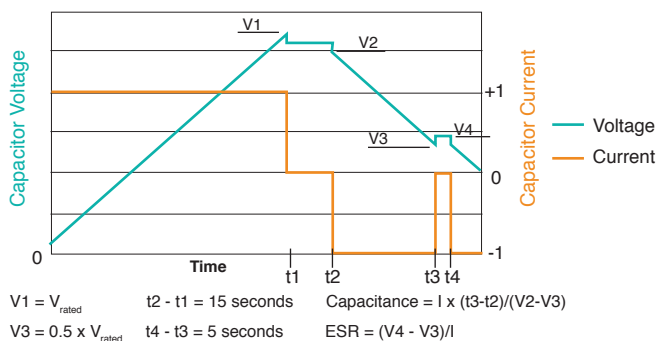
### Naming Rules:

Type		Capacitance	Dash	Rated Voltage	Dash	Termination
LC	Lithium Ion Capacitor Cell	0200 = 200F	-	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

**CAP/ESR Measurement Waveform**



**Figure 1**

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



Specifications are subject to change without notice.