This Datasheet applies for the following products:

200246 SuperCapacitor 3V 1500F – Weldable
200247 SuperCapacitor 3V 1500F – M12

1. Specifications

Property		Value
Weight		≤ 320 g
Rated capacitance		1500 F
Energy storage		1.88 Wh
Energy density		5.9 Wh/kg
Capacitance tolerance		0% ~ +20%
Rated Voltage		3.0 V
Surge Voltage		3.15 V
Operating temperature		-40 °C ~ +65 °C
Storage temperature		-40 °C ~ +70 °C
Max. continuous current (ΔT = 15℃)		103 A
Max. continuous current (ΔT = 40℃)		169 A
Peak current (1s)		1536 A
Leakage current @25°C		8 mA
ESR	AC(1kHZ)	0.20 mΩ
	DC 0.1s	0.28 mΩ
	DC 1s	0.31 mΩ
	DC 5s	0.35 mΩ
Usable specific power		10.89 kW/kg

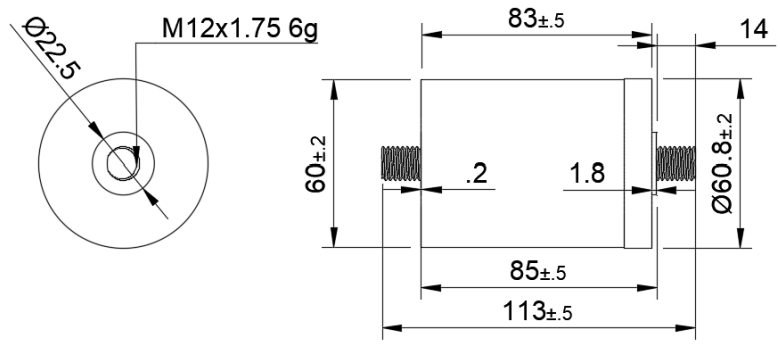
Impedance match specific power	25.11 kW/kg
Thermal resistance	4.5 °C/W
Thermal capacitance	320 J/°C
Vibration	ISO 16750-3
Shock	SAE J2464
Safety	RoHS, REACH
Terminals	Weldable or M12

2. Lifespan Specifications

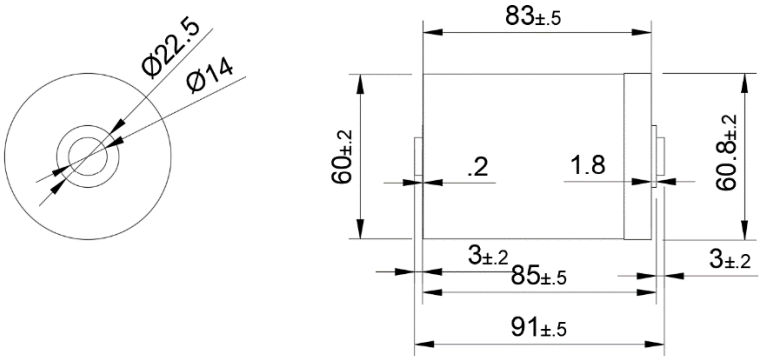
Property		Value
Lifetime at 65°C	Duration	1500 hours
	Capacitance change (decrease from rated value)	20%
	ESR Change (increase from rated Value	100%
Lifetime at 25°C	Duration	10 years
	Capacitance change (decrease from rated value)	20%
	ESR Change (increase from rated Value	100%
Cycle life at 25°C	Number of Cycles	1.000.000 cycles
	Capacitance change (decrease from rated value)	20%
	ESR Change (increase from rated Value	100%
Storage Lifespan	Stored at room temperature and self-discharging state	4 years

3. Dimensions

3.1. M12 connection



3.2. Weldable connection



4. Warnings and Cautions

4.1. Polarity

Super capacitors have a fixed polarity with designated positive and negative terminals. Ensure correct orientation during installation.

4.2. Operational Voltage

Operate super capacitors strictly within their specified nominal voltage to avoid damage and ensure optimal performance.

4.3. Circuit Compatibility

Super capacitors are not suitable for use in circuits that require high-frequency charging and discharging. Their structure is optimized for lower frequency or steady-state applications.

4.4. Environmental Impact

The lifespan of super capacitors is significantly affected by environmental conditions, especially temperature. Maintain a controlled environment to prolong their effective life.

4.5. Voltage Drop During Discharge

Be aware of the voltage drop $\Delta V=IR$ that occurs during the discharge process, which can affect performance and energy delivery.

4.6. Storage Conditions

Do not store super capacitors in environments where the relative humidity exceeds 85% RH, or in areas where toxic gases are present, as these conditions can degrade the materials and reduce capacitor efficiency.

4.7. Handling Post-Installation

Once installed, avoid exerting force to twist or tilt the capacitor. Improper handling can cause physical damage and potentially impact functionality.

4.8. Heat Management During Soldering

During the soldering process, care must be taken to prevent overheating the capacitor. Excessive heat can irreversibly damage the internal structure of the capacitor.

4.9. Voltage Balancing in Series

When connecting super capacitors in series, ensure that there is proper voltage balancing among the individual cells to prevent uneven charging and potential overvoltage conditions.