



## This Datasheet applies for the following products:

200244 SuperCapacitor 3V 3000F – Weldable

200245 SuperCapacitor 3V 3000F – M12

### 1. Specifications

Property		Value
Weight		≤ 525 g
Rated capacitance		3000 F
Energy storage		3.75 Wh
Energy density		7.1 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 ( $\Delta T = 15^{\circ}\text{C}$ )		146 A
Max. continuous current ( $\Delta T = 40^{\circ}\text{C}$ )		238 A
Peak current (1s)		2710 A
Leakage current @25°C		12 mA
ESR	AC(1kHz)	0.15 mΩ
	DC 0.1s	0.18 mΩ
	DC 1s	0.22 mΩ
	DC 5s	0.24 mΩ
Usable specific power		9.44 kW/kg



Impedance match specific power	23.8 kW/kg
Thermal resistance	3.2 °C/W
Thermal capacitance	600 J/°C
Vibration	ISO 16750-3
Shock	SAE J2464
Safety	RoHS, REACH
Terminals	Weldable or M12

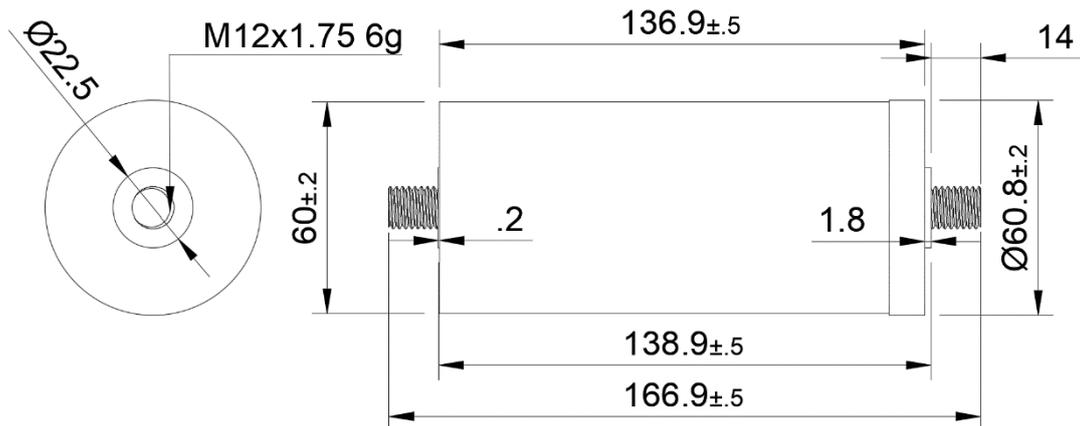
## 2. Lifespan Specifications

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

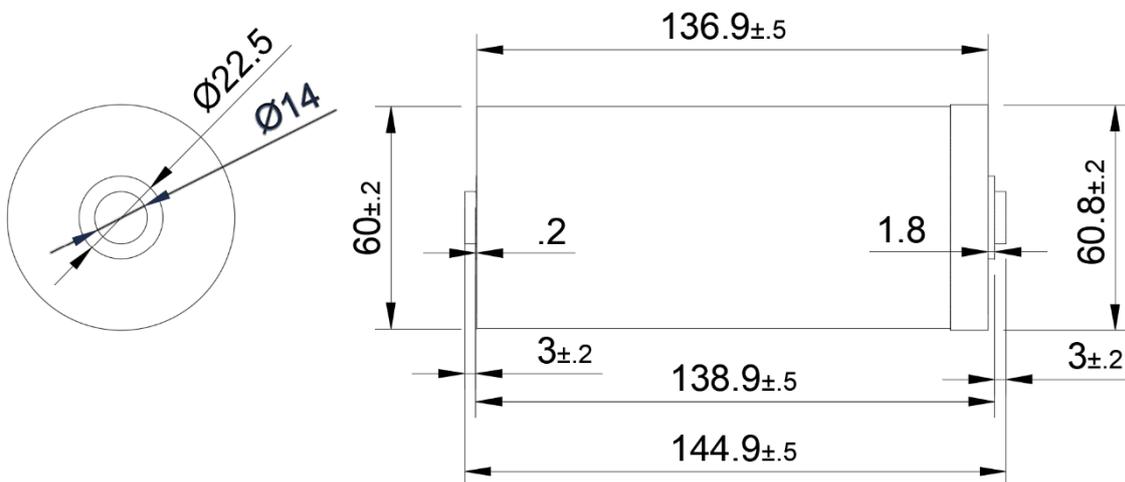


### 3. Dimensions

#### 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.

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#### 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.

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