

SCA0300 EVO

PCB-Mountable Cell

Note: Polarity of the cell is stated as following: center terminal for “-”, can and 3-pillar PCB frame for “+”.



General Specifications*	Value	Unit
Rated voltage V_R	2.85	V
Surge voltage	3.00	V
Rated capacitance	330	F
Initial capacitance	>350	F
ESR (DC 10ms ESR \approx AC 100 Hz), rated	0.80	m Ω
ESR (DC 1s ESR \approx AC 0.1 Hz), rated	1.00	m Ω
Maximum peak current, for 1 second ^{1,9}	0.35	kA
Leakage current (At 2.85 V, 25 °C and 72 hours, max)	<1.5	mA

Safety

Short circuit current (For informational purposes - do not use as operating current.)	3.56	kA
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Standards

ISO 16750-3, Table 17; IEC60068-2-27

Shock Test

RoHS; IEC62391-1; UL810A; AEC-Q200*

*Tested according to AEC-Q200 requirements, modified to match supercapacitor properties

Physical parameters	Value	Unit
Mass, typical (± 10 g)	0.067	kg
Volume	0.053	L
Diameter (-0,2...+0,3mm)	33	mm
Length (± 0.3 mm)	61.5	mm

Temperature and Life	Value	Unit
Operating temperature range		
Minimum	-40	°C
Maximum	+65	°C

Storage temperature range (uncharged)		
Minimum	-40	°C
Maximum	+65	°C

Life

Lifetime at 2.85V	2500	h
End of life (EoL) ESR	200% of rated	
EoL capacitance	80% of rated	
Storage life @ RT, uncharged	10	Years

Energy, based on rated capacitance

Stored energy ²	0.37	Wh
Specific energy ³	5.82	Wh/kg
Energy density ⁴	7.02	Wh/L

Power

Power (1 s ESR)	2.0	kW
Specific power (1 s ESR)	31.7	kW/kg
Power density (1 s ESR)	38.3	kW/L

$$(1) \text{ Maximum peak current (1 sec)} = \frac{\frac{1}{2} CV}{C \times \text{ESR} + 1s} \quad (2) E_{\text{stored}} = \frac{\frac{1}{2} CV^2}{3600} \quad (3) E_{\text{max}} = \frac{\frac{1}{2} CV^2}{3600 \times \text{mass}}$$

$$(4) E_{\text{max}} = \frac{\frac{1}{2} CV^2}{3600 \times \text{volume}} \quad (5) P_{\text{max}} = \frac{V^2}{4 \times \text{ESR}} \quad (6) P_{\text{max}} = \frac{V^2}{4 \times \text{ESR} \times \text{mass}}$$

$$(7) P_{\text{max}} = \frac{V^2}{4 \times \text{ESR} \times \text{volume}} \quad (8) I_{\text{max}} = \sqrt{\frac{\Delta T}{\text{ESR} \times R_{\text{th}}}}$$

(9) The stated maximum peak current should not be exceeded during use. If the limit is to be exceeded by the customer, Skeleton must be consulted beforehand and give approval for the exceeded power load. Typical value represents the mean production sample value. Rated value represents the absolute minimum capacitance or maximum ESR value of production sample.

Standard markings

- + Name of manufacturer, part number, serial number, rated voltage
- + Rated capacitance, negative and positive terminals, warning marking
- + Total energy in watt-hours
- + Electrolyte material used

Notes

- + Testing instructions available on www.skeletontech.com
- + All information provided on this data sheet and all subsequent ultracapacitors sales and testing are subject to Standard Terms of Service (ToS) available on www.skeletontech.com, document *General Terms of Sale for Skeleton Technologies GmbH*.

