



Hybrid Supercapacitor Specifications

		18500T-010-32	18650T-013-25	18650G-033-40	23680G-040-40	221128G-200-40	8256G-050-40	21700Y-024-40-H	21700Y-024-40-L	60140Y-180-40
Nominal capacity (discharged with standard profile <1C) ± 5%	Ah	1,00	1,25	3,30	4,00	20,0	5,25	2,40	2,40	18,0
Nominal energy (discharging @1C till cut-off)	Wh	3,20	3,12	11,9	13,8	77,0	16,3	8,40	8,40	65,0
Nominal voltage	V	3,20	2,50	4,00	4,00	4,00	4,00	4,00	4,00	4,00
Max. C-rate charging *** (cell)	C	3,00	12,0	1,00	1,25	1,25	1,25	10,0	10,0	10,0
Max. C-rate discharging *** (cell)	C	> 10	> 20	> 3	> 2	> 2	> 1	> 10	> 10	> 10
Ohmic Resistance Ri (@50% SoC)	mΩ	40,0	17,0	25,0	32,0	1,50	75,0	8,00	11,0	2,00
Gravimetric energy density (cells) (@1C)	Wh/kg	107	80,0	248	197	220	191	129	129	73,9
Cycles life at 25°C according to standard ****	cycles	> 10.000	> 10.000	> 10.000	> 10.000	> 10.000	> 10.000	> 10.000	> 10.000	10.000
Dimensions of cell	mm	18,6∅ x 51H	18,6∅ x 65,5H	18,5∅ x 69,6H	23,6∅ x 68H	221 x 7,5 x 142	82 x 56 x 8,9	21,7∅ x 71,6H	21,7∅ x 71,6H	60∅ x 140H
Operation temperature ***	°C	-20 to +70	-40 to +80	-20 to +60	-30 to +70	-20 to +55	-30 to +70	-20 to +65	-40 to +55	-40 to +80
Charging temperature range**	°C	-20 to +70	-40 to +80	0 to +45	-30 to +70	-20 to +45	-20 to +70	- 20 to +55	-40 to +45	-40 to +80
Discharging temperature range**	°C	-20 to +70	-40 to +80	-20 to +60	-30 to +70	-20 to +55	-20 to +70	-40 to +55	-40 to +45	-40 to +80
Weight of cells	g	30	39	48	70	350	85	65	65	880
Guarantee period (manufacturing)	months	12	12	12	12	12	12	12	12	12

Fire Hazardous substances: Cells do not pose a fire or explosion risk when used as specified.

* Specifications might deviate depending on production batch and testing environment.

** The operating temperature range defines a minimum and maximum temperature whereby the cells or battery can be used or stored. The indicated temperature is the internal temperature of the cell, which depends on the environmental temperature, the current used and on the load profile duty cycle. Temperature dependent restrictions will apply. At extreme high and low temperatures charging and discharging currents might need to be limited. Maximum charging and discharging currents can be temperature specific, especially at extreme low temperatures. Contact Altreonic.

*** The Max. C-rating of a powerpack is limited by the selected cable and connector parameters and can be lower than the theoretical maximum derived from cell parameters. The operating temperature must take into account cell heating resulting from the load profile. C-rates can be higher than the maximum values for a short duration. Contact Altreonic.

**** The cycle life is estimated based on standard test conditions, typically 25°C and < 1C charging/discharging currents. Actual cycle life is dependent on the temperature profile and SoC profile of the application load and on the charging configuration. Contact Altreonic.