



70 Amp Hour Cell

NANO LITHIUM TITANATE BATTERY CELL

Performance Characteristics	Nominal Values
Nominal Voltage	2.22 V
Capacity (Minimum / Typical @ 70 amp [1C rate] at 25°C, CCCV charge)	66.1 / 66.8 Ah
Typical high rate capacity (300 amp at 25°C, CCCV charge)	64.3 Ah
Typical energy (70 amp [1C rate] at 25°C, CCCV discharge)	148 Wh
Pulse power (700 amp [10C rate], 10s pulse, 50% SOC at 25°C) (discharge, charge)	TBD
Pulse power (FreedomCAR, 10s pulse, 50% SOC at 25°C) (discharge / charge) ¹	2330 W, 4580 W
Energy density	174 Wh/l
Power density (discharge, charge) ¹	2740 W/l, 5390 W/l
Specific energy	82 Wh/kg
Specific power (discharge, charge) ¹	1290 W/kg, 2530 W/kg
Internal charge impedance (10 sec DC pulse, 50% SOC, 25°C)	0.32 mΩ
Internal discharge impedance (10 sec DC pulse, 50% SOC, 25°C)	0.38mΩ
Max continuous charge	500 A
Max continuous discharge	500 A
Max 10 sec Pulse discharge or charge current	900 A
Internal Impedance (1 Hz AC, 10% SOC, 25°C)	0.3mΩ
Life Characteristics	
Cycle life at 2C charge and 2C discharge, 100% DOD, 25°C	>25,000 to 80% initial capacity
Cycle life at 1C charge and 1C discharge, 100% DOD, 55°C	>6,000 to 80% initial capacity
Calendar life at 25°C	25 years
Temperature Limits ²	
Operating and Storage temperature range	-50°C to +65°C cell temperature
Voltage Limits ³	
Discharge cut off voltage at -40°C to +55°C	1.5 V
Charge cut off voltage at -40°C to +55°C	2.9 V
Cell Dimensions ⁴	
Width (W) x Height (H) x Thickness (T; compressed)	256 x 263 x 12.6 mm
Weight	1.81 kg
Transportation	
Transportation Specifications	UN 3480 compliant, Tested to UN 38.3

¹ Power at 25°C for 10 sec is calculated using FreedomCar discharge formulas.

² Optimal storage temperature is 25°C.

³ In battery systems, the battery management system must enforce the voltage limits at the individual cell level.

⁴ Cell terminal heights are not included in the stated cell dimensions.