

- Rated voltage 4.2 V DC
- 6.0 Ah capacity
- Max energy density 74 Wh/Kg
- High cycle life of 30,000 cycles at 10 C
- Very high energy and power density
- Laser-weldable terminals
- Good linear charge and discharge behavior
- Using one activated carbon electrode and one lithium ion electrode



ELECTRICAL SPECIFICATIONS

Type	C46W-4R2-0006
Working Voltage V_R	2.80-4.20 V
Rated Capacity C^1	6.0 Ah
Capacitance Tolerance 2	-0% / +10 %
DC ESR 1	1.0mΩ
Self-discharge Rate 3	<2 %
Max Constant Current ($\Delta T = 25^\circ C$) 4	65 A
Short Current I_S^5	4.2 kA
Stored Energy E^6	22.2Wh
Energy Density E_d^7	74 Wh/kg
Usable Power Density P_d^8	6.6 kW/kg
Impedance Match Power Density P_{dMax}^9	13.2 kW/kg

THERMAL CHARACTERISTICS

Type	C46W-4R2-0006
Working Temperature	-40 ~ 55°C
Storage Temperature 10	-40 ~ 60°C

LIFETIME CHARACTERISTICS

Type	C46W-4R2-0006
Designed life 11	10 years
Cycle Life 12	30'000 cycles
Shelf Life 13	10 years

SAFETY & ENVIRONMENTAL SPECIFICATIONS

Type	C46W-4R2-0006
Safety	RoHS, REACH and UL810A
Vibration	ISO 16750-3 (Table 14)
Shock	SAE J2464

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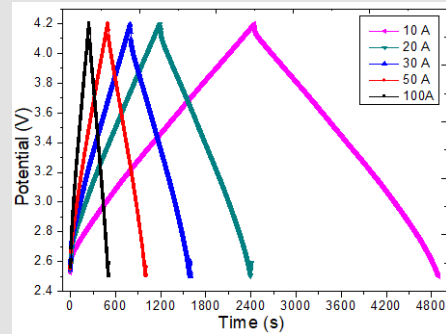
PHYSICAL PARAMETERS

Type	C46W-4R2-0006
Mass, typical M	300 g
Terminals ¹⁴	Weldable
Dimensions ¹⁵ Length	94 mm
Diameter	45.6 mm

Notes

- Rated capacity C: According to the test procedure GB/T 31467.1-2005_7.1 chapter, test the discharge capacitance at 1C current.
Equivalent internal resistance DCIR: According to the test procedure GB/T 31467.1-2005_7.1 chapter, the discharge current is 50C current and discharge time is 30ms.
- Capacity tolerance: Typical tolerance is ~+5%.
- Self-discharge rate: The test method is to use the constant current to charge the battery to the rated voltage, keep charging for 8 hours and then open the battery (no load), and measure the open voltage after 72 hours.
- Max constant working current : $I_{MCC} = \sqrt{\Delta T / (ESR * R_{th})}$, That is, the operating current whose temperature rise does not exceed 25 °C when the battery dissipates heat with the natural convection of the shell in still air and the joule heat balance.
- Short current: $I_s = V_n / ESR$, Each parameter adopts SI system unit or its conversion unit, and the current cannot be used as working current.
- Stored energy: $E = \int U(t)I(t)dt / 3600$
- Energy density: $E_d = E / M$.
- Usable power density: $P_d = 0.12V_n^2 / (ESR * M)$.
- Impedance match power density: $P_d = 0.25V_n^2 / (ESR * M)$
- Storage temperature: Discharged state (The voltage of cell > 2.8V).
- Designed life: Maintain at its rated voltage. The life criterion is that the capacity is kept above 80% of the rated capacity and the internal resistance is less than 150% of the initial internal resistance.
- Cycle life: constant current charging and discharging is carried out within the working voltage range, and the charging and discharging is left for 5 seconds. The test current is 10 C multiplier current.
- Shelf life: in the storage temperature range, maintain the discharge state, no load (cell voltage is not less than 2.8V).
- Terminal: the welding depth should be larger than 1.2mm
- Dimensions:

16. Charging and discharging curve:



17. Standard markings:

- + Name of manufacturer, part number, serial number
 - + Rated voltage and capacitance, negative and positive terminals, warning marking
 - + Stored energy in watt-hours
18. Installation recommendations
- + The welding depth should be larger than 0.8 mm.
 - + Provide adequate spacing in between cells to secure required insulation strength.
 - + Provide clearance around the safety vent and do not position anything above the safety vent that may be damaged in an event of vent rupture.
19. The contents of this document are subject to change without notice.

