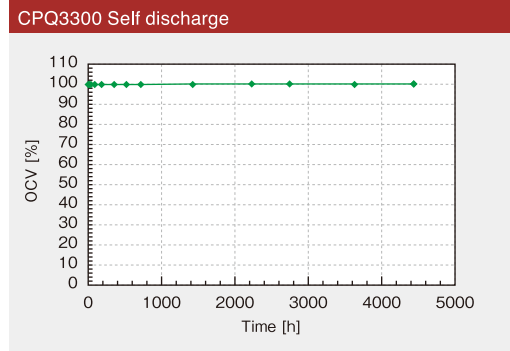
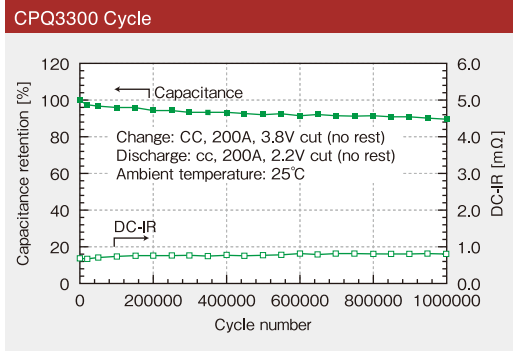


ULTIMO Lithium Ion Capacitor

Cell

- Higher operating voltage (3.8V)
- High power (1000A discharge-able), High energy density (> 20Wh/L)
- Rapid charge/discharge-able with high current (> 100A) ● High durability (> 200 thousand cycles)
- Wide operating temperature range (-30°C ~ 70°C)
- Very small self discharge (Less than 5% of self-discharge after 10,000 hours)
- Theoretically high safety (No thermal runaway at positive electrode)



Comparison with other Energy Storage Devices

	Lithium Ion Capacitor	Electrical Double Layer Capacitor	Lithium Ion Battery	Lead Acid Battery
Energy density	Medium (Higher at high current)	Low	Very high	High
Power density	High	High	Low (not good for rapid charge)	Very low
Rapid charge/discharge	in seconds	in seconds	in hours (Needs a charge control)	in hours (Needs a refreshing charge)
Internal resistance	Low	Low	High	Very high
Low temperature performance	Good	Good	Very bad	Bad
High temperature performance	Very good (up to 70°C)	Good (up to 60°C)	Very bad (up to 40°C)	Very bad
Self discharge	Small	Big	Small	Big
Maintenance	Maintenance free	Maintenance free	Frequent replace required	Frequently replace required
Lifetime (float / cycling)	Long	Long	Relatively short	Short (sudden death occurs)
Safety and flammability	High, flammable	High, flammable	Low, flammable (Self heat up / igniting)	High, not flammable
Application	Very high power (Medium energy)	Very high power (Lower energy)	Medium power (High energy)	Low power (High energy)

Fundamental Characteristics

		Prismatic type		Conditions
		CPQ3300S series	43CD3 (Under development)	
Rated Voltage		3.8V~2.2V		
Initial characteristics	Capacitance	3300F	4300F	Ambient temperature: 25°C Discharge current at: 10A
	DC-IR	0.7 mΩ	1.0 mΩ	Ambient temperature: 25°C Discharge current at: 100A
	Gravimetric energy density	13Wh/kg	17Wh/kg	
	Volumetric energy density	20Wh/L	26Wh/L	
	Gravimetric power density	10kW/kg	7kW/kg	With maximum discharge current
	Volumetric power density	15kW/L	10kW/L	With maximum discharge current
	Maximum discharge current	1,300A	1,100A	Discharge current can be continue for 1 second
Temperature characteristics	Lowest temperature in the temperature range	75%	75%	(compared with 25°C capacitance)
	Highest temperature in the temperature range	100%	100%	Discharge current at: 10A
Self discharge	Hours required for 5% discharge	≥10,000	≥10,000	Ambient temperature: 25°C Initial voltage: 3.0V
Cycle durability	Cycle counts required to 80% capacitance retention	≥1,000,000 *1	≥200,000 (@DOD60%) *2	Ambient temperature: 25°C Cycling current: 200A(*1)/100A(*2) Condition: Constant current, continuous
Temperature range		-30°C ~ 70°C		
Dimensions		150.2mm × 93.2mm × 15.8mm	150.2mm × 93.2mm × 15.8mm	Terminals are excluded
Weight		343g	340g	

* The contents of this catalog are subject to change without notice.

Contact