

Panasonic NCR18650D

5. Nominal Specifications

Items		Specifications	Notes
5.1	Rated Capacity (Minimum)	2500mAh	0.51A discharge at 20°C
5.2	Nominal Capacity (Minimum)	2550mAh	0.51A discharge at 25°C
5.3	Nominal Capacity (Typical)	2700mAh	Reference only
5.4	Nominal Voltage	3.6V	0.51A discharge at 25°C
5.5	Discharging End Voltage	2.50V	
5.6	Charging Current (Std.)	1.78A	
5.7	Charging Voltage	4.20 ± 0.03V	
5.8	Charging Time (Std.)	3.0 hours	
5.9	Continuous Discharging Current (Max.) ^{※1}	5.10A	0 ~ +40°C
5.10	Internal Resistance	less than 100mΩ	AC Impedance 1 kHz
5.11	Weight	less than 45.5g	
5.12	Operating Temperature	Charge	0 ~ +40°C
		Discharge	-20 ~ +60°C
5.13	Storing Conditions	less than 1 month	-20 ~ +50°C
		less than 3 months	-20 ~ + 40°C
		less than 1 year	-20 ~ + 20°C
		Percentage of recoverable capacity 80% ^{※2}	

※1 The maximum discharge current for a single cell use. However after the battery pack assembly, there will be a limitation of maximum discharge current due to a protection circuit or a protection device.

※2 Percentage of recoverable capacity

= (Discharging time after storage / Initial discharging time) ×100

The discharging time is measured by the discharge current of 0.51A until 2.50V of end voltage after the battery is fully charged at 25°C.

File No	NCR18650-084	Energy Company, SANYO Electric Co., Ltd. Lithium-Ion Battery Business Unit Battery System Management Department
---------	--------------	---

6. Electrical Characteristics		
Items	Conditions	Criteria
6.1 Full Charge	The battery is charged with 1.78A constant current until the voltage reaches 4.20V. Then, the current is reduced in order to keep the constant voltage of 4.20V. The total charging time is 3.0 hours at 25 °C.	
6.2 Capacity	① Within 1 hour, after fully charged at 25°C, the battery is discharged with 0.51A continuously until 2.50V of end voltage at 25°C.	More than 300min.
	② Within 1 hour, after fully charged at 25°C, the battery is discharged with 1.78A continuously until 2.50V of end voltage at 25°C.	More than 54min.
6.3 Cycle Life	The battery is repeated 300 times of Charge and Discharge cycles, (Charged by CC-CV of 1.78A-4.20V for 3.0 hours, Discharged by CC of 2.75A to 2.50V (E.V.)) at 25°C. After the 300 cycles, the discharge time is measured by the Item 6.2.②.	More than 38min.
6.4 Temperature Characteristics	① Within 1 hour, after fully charged at 25°C, the battery is stored at 0 °C for 3 hours. After that, the discharge time is measured Item 6.2.② at 0 °C.	More than 30min.
	② Within 1 hour, after fully charged at 25°C, the battery is stored at 60 °C for 3 hours. After that, the discharge time is measured Item 6.2.② at 60 °C.	More than 50min.
6.5 Storage at Fully Charged State	After fully charged at 25°C, the battery is stored for 20 days at 60 °C. After the storage, the battery is set in 25°C for 3 hours. Then, the discharge time is measured Item 6.2.②.	More than 30min.
	Then, the same battery is fully charged again and checked the second discharge time by the Item 6.2 ② at 25 °C.	More than 40min.
File No	NCR18650-084	Energy Company, SANYO Electric Co., Ltd. Lithium-Ion Battery Business Unit Battery System Management Department