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C45F-302Ah Lithium Ion Battery Specification

❖ Battery Type : C45F

❖ Features

- LiFePO₄ as cathode material
- Excellent safety, long life time
- Good temperature performance and large operating temperature range
- High energy density
- Environment friendly

❖ Certification

- GBT31484-2015
- GBT31485-2015
- GBT31486-2015



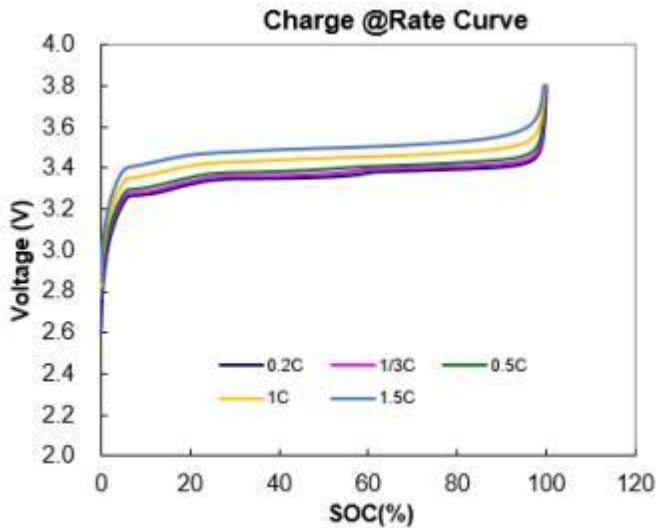
Nominal characteristics		Cell dimensions	
Nominal Voltage	3.20V	Length	173.93±0.8mm
Capacity	302 Ah	Width	207.35±0.8 mm
Energy	966.4 Wh	Thickness	71.65±0.8mm
Charge Method	Constant Current	Weight	5.54±0.2 Kg
Charge Current	60.4 A @ 25°C (Standard) 302 A @ 25°C (Max. Continue Current)	Abuse test (GB31485)	Test result (based on EUCAR)
Charge Cut-off	3.65V/Cell	Nail penetration	Pass-L4a
Discharge Method	Constant Current	Overcharge	Pass-L4a
Discharge Current	60.4 A @ 25°C (Standard) 302 A @ 25°C (Max. Continue Current)	Over-discharge	Pass-L2
Discharge Cut-off	2.5 V/Cell	External short	Pass-L2
Peak Charge Power	1800 W (BOL/25°C/50%SOC/10s)	Oven	Pass-L4a
Peak Discharge Power	2500 W (BOL/25°C/50%SOC/10s)		
Shipment Voltage	3.255-3.305V		
Shipment SOC	25%±3%		



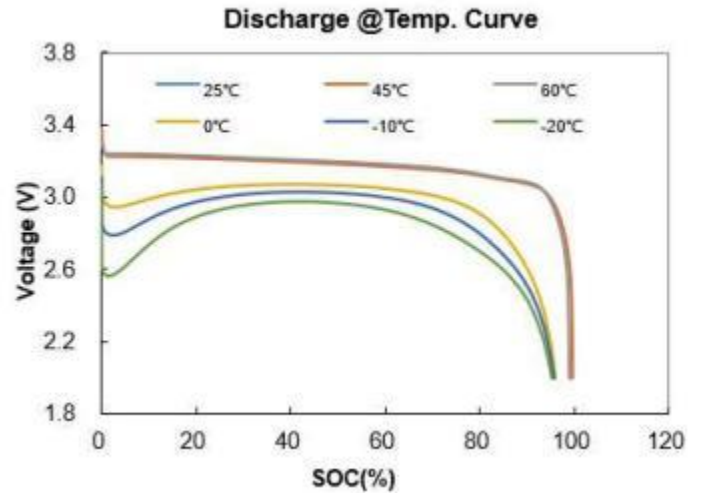
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❖ Charge at Different Rate

After fully discharged at 23±2°C with 0.33C discharge current, the cell is charged at different C-rate to 3.8V.

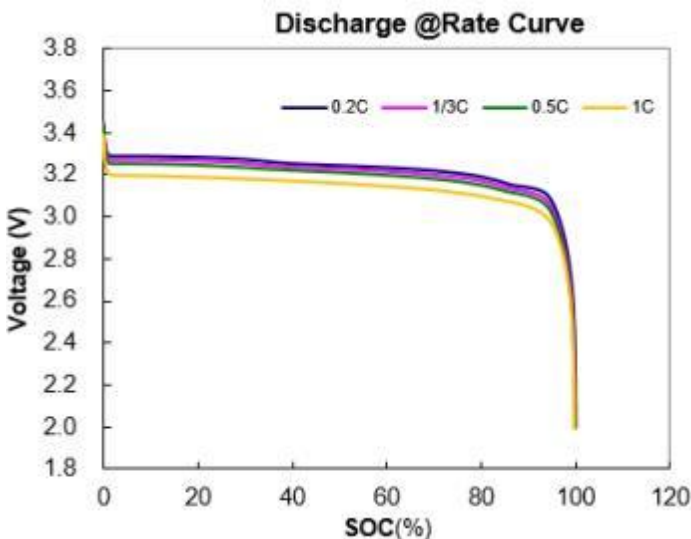


After fully charged at 23±2°C with 1C and 0.2C charge current, then keep the cell at different temperature for 8 hours. The cell is discharged to 2.0V with 1C.



❖ Discharge at Different Rate

After fully charged at 23±2°C with 1C and 0.2C charge current to 3.8V, the cell is discharged at different C-rate to 2.0V.



❖ Safety Instructions

• Operating & Storage Conditions

Charge Temperature	0~+50°C
Discharge Temperature	-20~+55°C
Normal Storage	-10~+28°C (<3 months, 20~60% SOC)
Long Term Storage	-10 ~+28°C (<1 year, 30~60% SOC)
Storage Humidity	5%~95%
Elevation	≤4000m

• Necessary Protection Functions

During charge and discharge cycles, the charger and the protection circuit should be satisfied the following items to insure the safety. (*BYD suggested)

No.	Items	Condition
1	Charge Cut-off Voltage	3.65 V/Cell
2	Discharge Cut-off Voltage	2.50 V/Cell
3	1st Over Charge Protective Voltage	3.69 V~3.80 V/Cell
4	2nd Over Charge Protective Voltage	*3.81 V~3.90 V/Cell
5	Over Charge Release Voltage	3.50V~3.60 V/Cell
6	1st Over Discharge Protective Voltage	2.1 V~2.5 V/Cell
7	2nd Over Discharge Protective Voltage	*1.80V~2.0 V/Cell
8	Over Discharge Release Voltage	2.50V~2.80 V/Cell
9	Over Temperature Alarm	65°C
10	Over Temperature Protective	65°C

❖ Discharge at Different Temperature

• Cautions



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1 Never throw out battery in a fire or expose to high temperatures. Move away from the fire.

2 Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.

3 Do not use the battery with other maker's batteries, different types and /or models of batteries.

4 Do not disassemble or alter the batteries' outside structure. Do not impact or penetrate the cell.

5 Incompatible products: Conductive materials, water, sea-water, strong oxidizers and strong acids.

6 Avoid direct sunlight, high temperature, and high humidity (temperature \leq 65°C, humidity \leq 95%).

7 Wear neoprene or nature rubber gloves if handling a cell.

8 Insure the cell has necessary protection and monitoring to voltage, current and temperature of the cell.

9 In case of smoking or electrolyte spilled, cell damaged, stop using the cell immediately and the contact BYD to dispose.