

## Specification of:

## LFP 12V 13.5/18

### 12.8V 13.5Ah



Document No	Edition No	Approved By
	01	JA Annandale

## 1. General

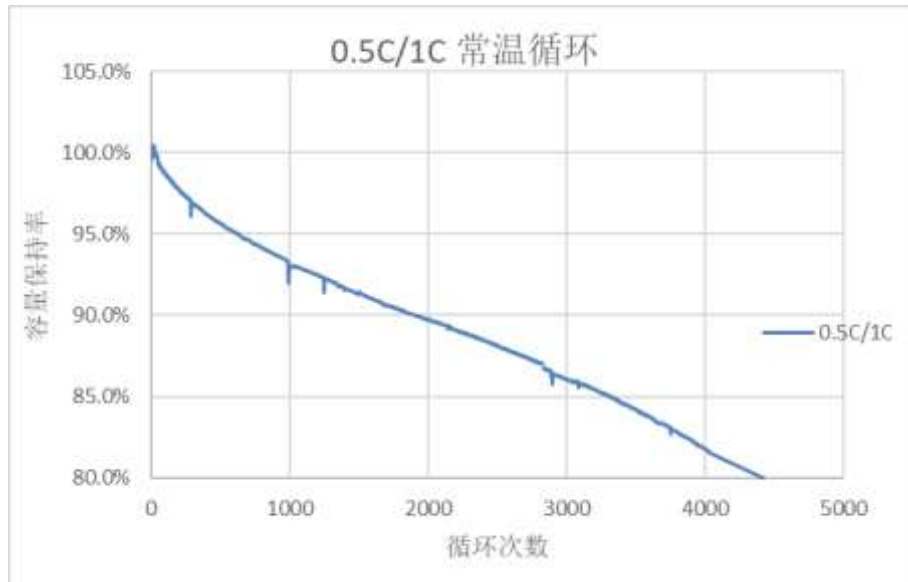
LFP 12V 13.5/18 is a 4S3P Lithium Iron Phosphate rechargeable battery pack with battery protection circuit board integrated, normal voltage is 12.8V and 13.5Ah.  
 The pack comes enclosed in the standard sealed lead acid 12V 12Ah housing

## 2. Battery Pack basic characteristics

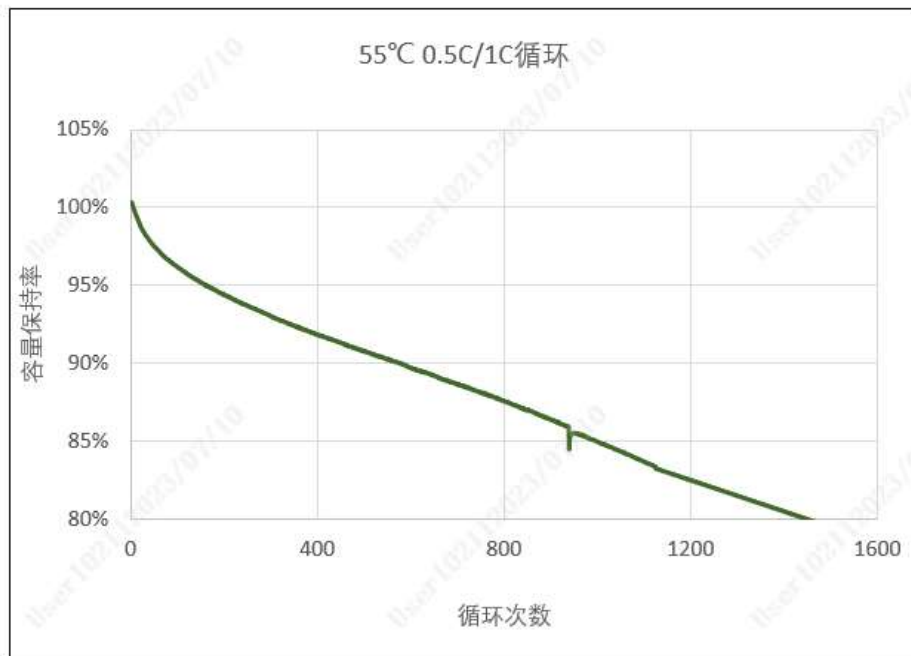
Lithium Iron Phosphate cells used	3.2V 4.5Ah
Nominal Voltage	12.8V
Internal impedance	≤ 100mΩ
Discharge cut-off voltage	9V
Max charge voltage	14.8V
Max allowable continuous charge current	7A
Max possible continuous discharge current	15A (determined by polyswitch)
Max allowable continuous discharge current	15A
Max discharge peak current	18A (0.5 second)
Cycle life	Capacity after 3000 cycles and plus 1 day Capacity ≥ 13500mAh(80% of the capacity at 25°C) at 0.2C
Protections	PCM, polyswitch
Weight	+/-1.4 kg
Max dimension	148mm x 97mm x 90mm
Operating temperature	Charge : 0 to 45°C Discharge: -10 to 60°C
Storage temperature	1 year : 0~35°C(1*)

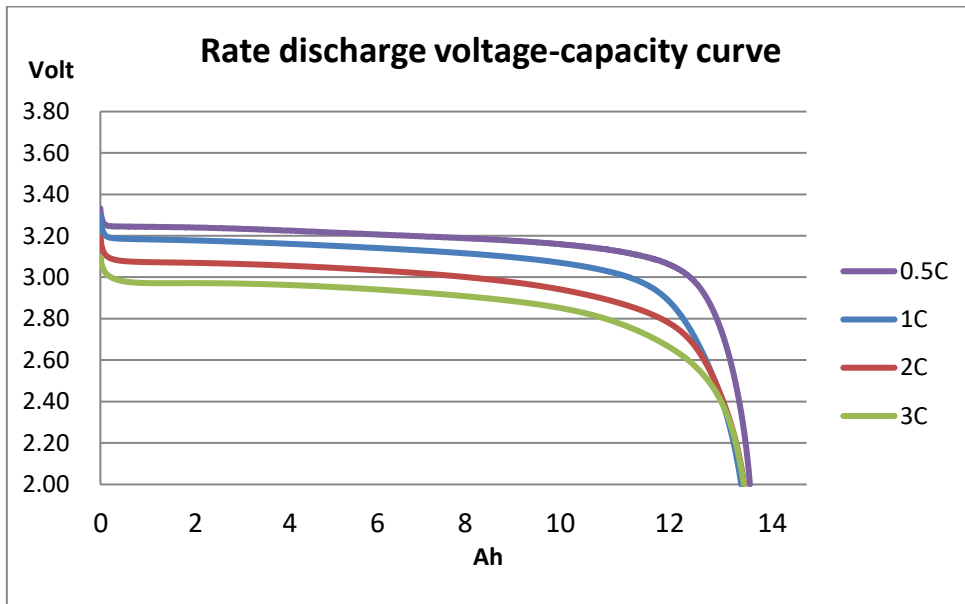
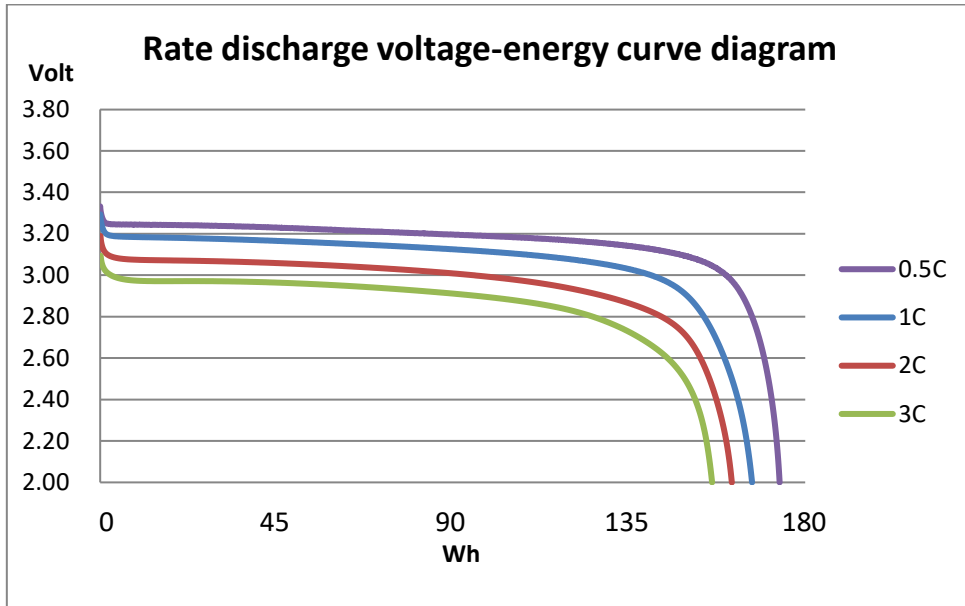
Note (1): If the cell is kept as ex-factory status (50% of charge), the capacity recovery rate is more than 80%.

**Cycle life at 0.5C charge and 1C discharge at 25°C**



**Cycle life at 0.5C charge and 1C discharge at 55°C**





### 3. PCM parameters

Test item	Criterion	
<b>Voltage</b>	Charging voltage	DC: CC/CV(3.60V/cell)
	Balance voltage for single cell	3.60±0.025V
<b>Current</b>	Balance current for single cell	42±5mA
	Current consumption for single cell	≤50μA
	Max. continuous charging current	15A (Limited by polyswitch 15A)
	Max. cont. discharging current	15A (Limited by polyswitch 15A)
<b>Over charge protection (single cell)</b>	Over charge detection voltage	3.90±0.025V
	Over charge detection delay time	0.5S—2.0S
	Over charge release voltage	3.80 ±0.05V
<b>Over discharge protection (single cell)</b>	Over discharge detection voltage	2.0±0.08V
	Over discharge detection delay time	10-200mS
	Over discharge release voltage	2.3±0.1V
<b>Over current protection</b>	Over current detection voltage	depend on the above points
	Over current detection current	final data fixed from actual test
	Detection delay time	5-50ms
	Release condition	Cut load, Auto release
<b>Short protection</b>	Detection condition	Exterior short circuit
	Detection delay time	200-600uS
	Release condition	Automatic
<b>Resistance</b>	Protection circuitry	<50mΩ
<b>Temperature</b>	Operating Temperature Range	-40~+85°C
	Storage Temperature Range	-40~+125°C