



## 3-FM-4.5Ah Valve-regulated Lead Acid Battery Specification

We are an ISO9001 certified organization. And the products are approved by CE&UL. The nominal voltage of this series is 12V. And the capacity ranges from 1.2Ah to 24Ah. Their typical applications include: Emergency lighting systems, Electricity power supply systems, Communication systems, UPS systems, Starting systems, Solar systems etc.

### Battery Construction

Component	-----	Material
Positive Plate	-----	Lead Dioxide
Negative Plate	-----	Lead
Container	-----	ABS
Cover	-----	ABS
Safety Valve	-----	Rubber
Terminal	-----	Copper
Separator	-----	AGM glass
Electrolyte	-----	Sulfuric Acid

### General Features

Maintenance free  
Convenient for installation  
Safety and no leakage  
Excellent recharge and discharge performance  
Low self-discharge rate, charge each standby 6 months, temperature 25°C  
Adapt to high or low temperature  
Good deep discharge performance  
Longer cycle life  
UL approval

### Performance Characteristics

#### 1. Dimension and Weight

Length	-----	70mm
Width	-----	47mm
Height	-----	100mm
Total Height	-----	104mm
Reference Weight	-----	0.74kg

#### 2. Functional Parameter

Rated Voltage	-----	6V
Numbers of cells	-----	3 Cells
Designed Life	-----	3~5 Years

#### 3. Rated Capacity at 25°C(77°F)

20 hours rate (0.1C, 10.8V)	-----	4.5Ah
5 hours rate (0.25C, 10.8V)	-----	3.8Ah
1 hours rate (0.55C, 10.5V)	-----	2.7Ah

#### 4. Capacity Affected by Temperature(10 hours rate)

40 °C (104°F)	-----	103%
25 °C (77 °F)	-----	100%
0 °C (32 °F)	-----	85%
-15°C (5 °F)	-----	65%

#### 5. Charge Method: Constant-Voltage Charging at 25°C(77°F)

Cyclic Use	-----	7.2~7.45V
Maximum Charging Current	-----	1.35A
Temperature Compensation	-----	-15mV/°C
Float Use	-----	6.8~6.9V
Temperature Compensation	-----	-10mV/°C

#### 6. Environment Temperature Requirements

Discharge Temperature	-----	-15~50°C
Charge Temperature	-----	0~40°C
Storage Temperature	-----	-15~40°C

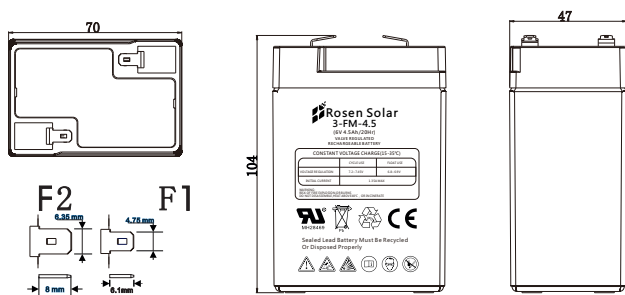
#### 7. Inner Resistance & Max. Discharge Current

A fully charge battery at 25°C(77°F)	-----	25mΩ
Max. Discharge Current	-----	67.5A(5S)
Short Circuit Current	-----	225A

#### 8. Self-discharge

3% of the capacity per month at 25°C(77°F)		
Capacity after 3 month storage	-----	91%
Capacity after 6 month storage	-----	82%
Capacity after 12 month storage	-----	64%

### Dimensions(mm)



### 3D Model Review



### Constant-Current Discharge Parameter Unit: A(25°C)

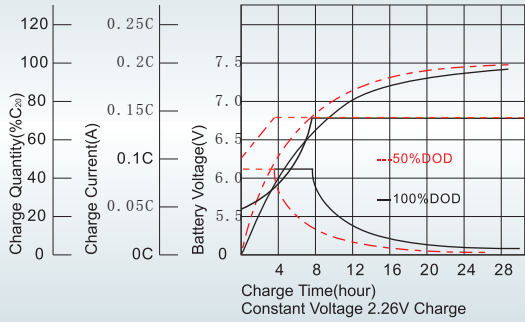
F.V/Time	5min	10min	15min	20min	30min	45min	1h	3h	5h	10h	20h
1.80V/Cell	11.50	8.41	6.59	5.57	4.30	3.12	2.53	1.13	0.75	0.42	0.225
1.75V/Cell	13.00	9.24	7.19	5.99	4.46	3.24	2.65	1.15	0.77	0.43	0.227
1.70V/Cell	14.30	10.10	7.68	6.30	4.65	3.37	2.74	1.18	0.78	0.44	0.231
1.65V/Cell	15.70	10.90	8.17	6.69	4.90	3.45	2.80	1.23	0.81	0.45	0.234
1.60V/Cell	17.40	11.80	8.73	7.13	5.18	3.60	2.83	1.27	0.83	0.45	0.236

### Constant-Power Discharge Parameter Unit: W(25°C)

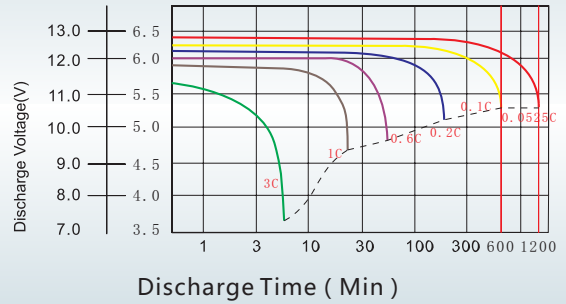
F.V/Time	5min	10min	15min	20min	30min	45min	1h	3h	5h	10h	20h
1.80V/Cell	20.80	15.40	12.10	10.30	8.07	5.96	4.86	2.18	1.45	0.83	0.445
1.75V/Cell	23.00	16.60	13.10	11.00	8.31	6.12	5.06	2.22	1.49	0.85	0.449
1.70V/Cell	24.60	17.70	13.80	11.50	8.60	6.34	5.21	2.27	1.52	0.86	0.457
1.65V/Cell	26.70	18.90	14.50	12.10	9.00	6.44	5.29	2.36	1.56	0.88	0.462
1.60V/Cell	28.80	20.10	15.30	12.80	9.43	6.68	5.31	2.42	1.61	0.89	0.464

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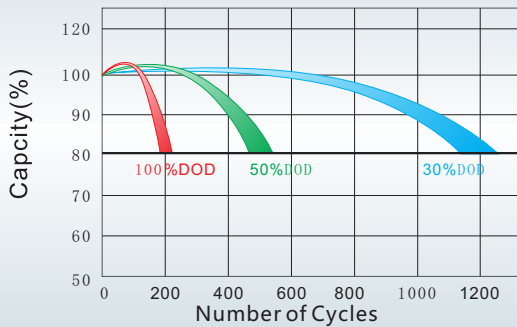
Charge Characteristics for Float Use @25°C/77°F



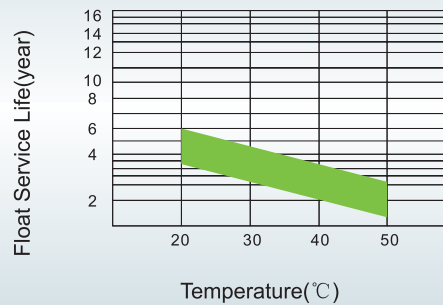
Discharge Characteristics at Various Rates @25°C/77°F



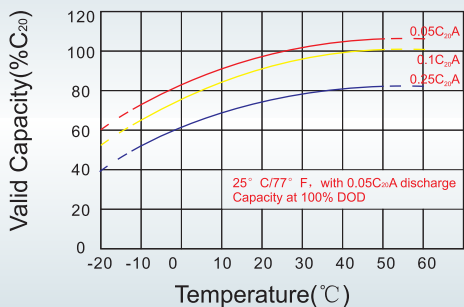
Cycle Life in Relation to Depth of Discharge



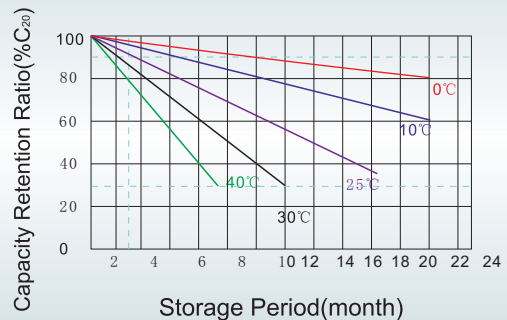
Float Service Life



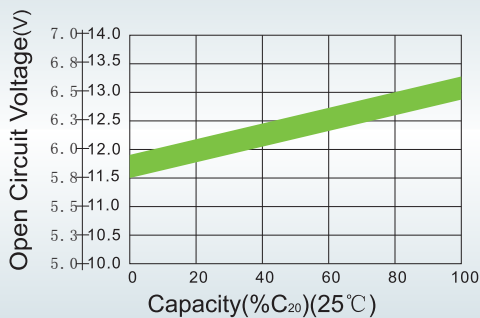
Temperature and Valid Capacity



Self Discharge Characteristics



Capacity and Open Circuit Voltage



Relationship between Charging Voltage and Temperature

