Rosen Solar
To light up the world

Rosen Solar Energy Co., Ltd

3-FM-4Ah 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℃
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	0.71kg

2. Functional Parameter

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

3. Rated Capacity at 25℃(77℉)

20 hours rate (0.1C, 10.8V)	4Ah
5 hours rate (0.25C, 10.8V)	3.4Ah
1 hours rate (0.55C, 10.5V)	2.4Ah

4. Capacity Affected by Temperature(10 hours rate)

40 ℃ (104℉)	103%
25 ℃ (77 ℉)	100%
0 ℃ (32 ℉)	85%
-15℃ (5 ℉)	65%

5. Charge Method: Constant-Voltage Charging at 25℃(77℉)

Cyclic Use	7.2~7.45V
Maximum Charging Current	1.2A
Temperature Compensation	-15mV/℃
Float Use	6.8~6.9V
Temperature Compensation	-10mV/℃

6. Environment Temperature Requirements

Discharge Temperature	-15~50℃
Charge Temperature	0~40℃
Storage Temperature	-15~40℃

7. Inner Resistance & Max. Discharge Current

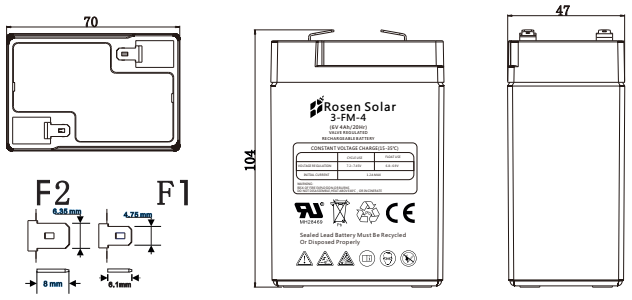
A fully charge battery at 25℃(77℉)	26mΩ
Max. Discharge Current	60A(5S)
Short Circuit Current	200A

8. Self-discharge

3% of the capacity per month at 25℃(77℉)

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℃)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	3h	5h	10h	20h
1.80V/Cell	10.22	7.48	5.86	4.95	3.82	2.77	2.25	1.00	0.67	0.37	0.200
1.75V/Cell	11.56	8.21	6.39	5.32	3.96	2.88	2.36	1.02	0.68	0.38	0.202
1.70V/Cell	12.71	8.98	6.83	5.60	4.13	3.00	2.44	1.05	0.69	0.39	0.205
1.65V/Cell	13.96	9.69	7.26	5.95	4.36	3.07	2.49	1.09	0.72	0.40	0.208
1.60V/Cell	15.47	10.49	7.76	6.34	4.60	3.20	2.52	1.13	0.74	0.40	0.210

Constant-Power Discharge Parameter Unit: W(25℃)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	3h	5h	10h	20h
1.80V/Cell	18.49	13.69	10.76	9.16	7.17	5.30	4.32	1.94	1.29	0.74	0.396
1.75V/Cell	20.44	14.76	11.64	9.78	7.39	5.44	4.50	1.97	1.32	0.75	0.399
1.70V/Cell	21.87	15.73	12.27	10.22	7.64	5.64	4.63	2.02	1.35	0.77	0.406
1.65V/Cell	23.73	16.80	12.89	10.76	8.00	5.72	4.70	2.10	1.39	0.78	0.411
1.60V/Cell	25.60	17.87	13.60	11.38	8.38	5.94	4.72	2.15	1.43	0.79	0.412

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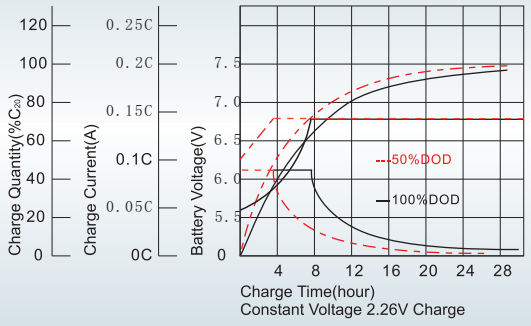
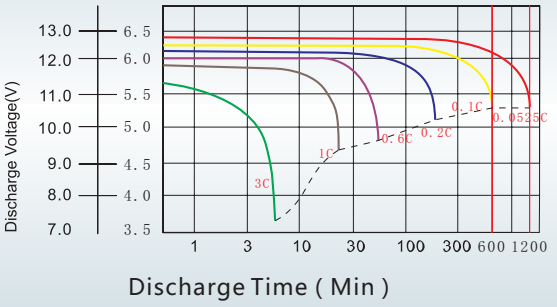
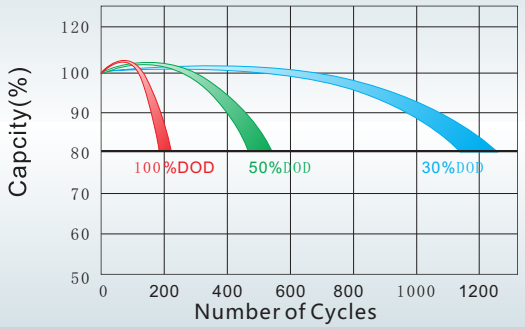
Charge Characteristics for Float Use @25℃/77℉



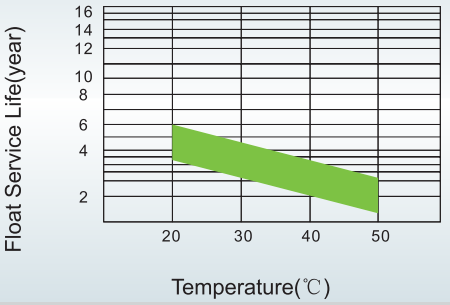
Discharge Characteristics at Various Rates @25℃/77℉



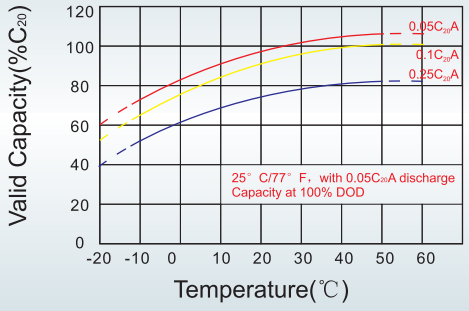
Cycle Life in Relation to Depth of Discharge



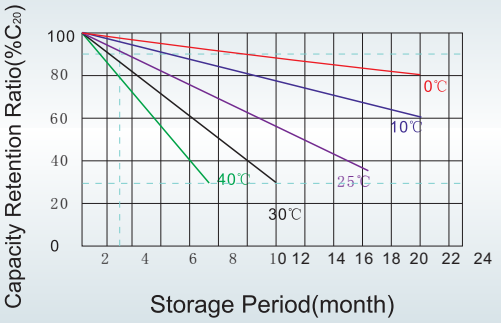
Float Service Life



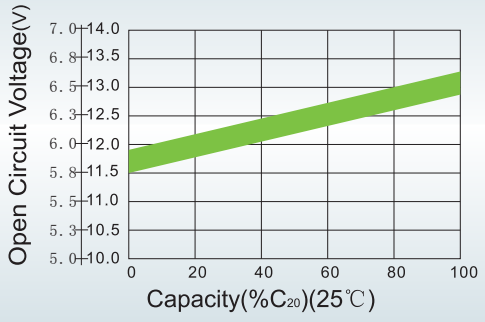
Temperature and Valid Capacity



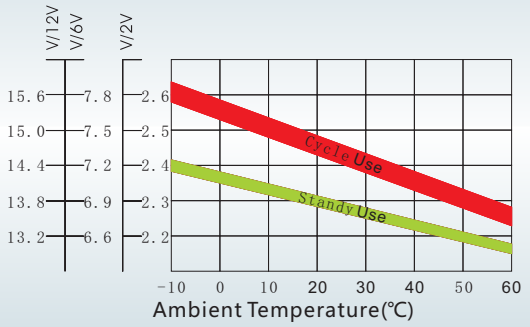
Self Discharge Characteristics



Capacity and Open Circuit Voltage



Relationship between Charging Voltage and Temperature



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