Rosen Solar
To light up the world

Rosen Solar Energy Co., Ltd

6-GFM-120Ah 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 33Ah to 250Ah. 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	406mm
Width	173mm
Height	210mm
Total Height	236mm
Reference Weight	33kg

2. Functional Parameter

Rated Voltage	12V
Numbers of cells	6 Cells
Designed Life	10~12 Years

3. Rated Capacity at 25℃(77℉)

10 hours rate (0.1C, 10.8V)	120Ah
3 hours rate (0.25C, 10.8V)	92.1Ah
1 hours rate (0.55C, 10.5V)	66.3Ah

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	14.4~14.9V
Maximum Charging Current	30A
Temperature Compensation	-30mV/℃
Float Use	13.6~13.8V
Temperature Compensation	-20mV/℃

6. Environment Temperature Requirements

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

7. Inner Resistance & Max. Discharge Current

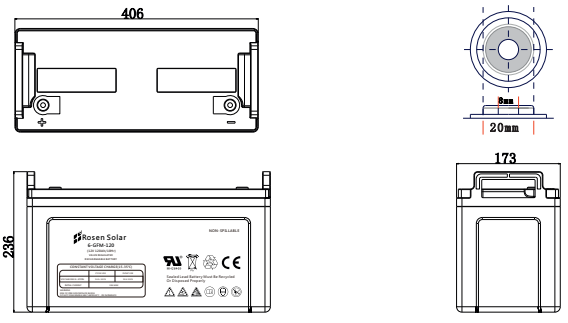
A fully charge battery at 25℃(77℉)	4mΩ
Max. Discharge Current	1800A(5S)
Short Circuit Current	6000A

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	275.7	206.3	165.9	135.7	107.7	80.4	63.3	30.7	20.1	12.0	6.24
1.75V/Cell	310.8	226.7	181.2	146.0	111.9	83.3	66.3	31.2	20.7	12.1	6.31
1.70V/Cell	342.3	247.1	193.5	153.5	116.4	86.7	68.4	32.1	21.2	12.2	6.43
1.65V/Cell	377.5	266.7	205.7	163.1	122.8	88.9	70.7	33.5	21.7	12.5	6.51
1.60V/Cell	416.3	289.5	220.0	173.7	129.6	92.7	73.2	34.5	22.5	12.6	6.55

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

F.V/Time	5min	10min	15min	20min	30min	45min	1h	3h	5h	10h	20h
1.80V/Cell	498.7	376.7	305.5	252.1	202.1	153.2	121.6	59.5	39.3	23.7	12.35
1.75V/Cell	550.3	407.2	329.5	268.7	208.1	157.5	126.7	60.3	40.3	23.9	12.44
1.70V/Cell	589.2	433.7	346.9	280.3	215.5	163.2	130.1	61.9	41.2	24.1	12.68
1.65V/Cell	640.5	463.9	366.0	295.5	225.5	165.7	133.6	64.1	42.1	24.5	12.83
1.60V/Cell	690.1	492.1	384.9	311.3	236.3	171.9	137.6	65.9	43.3	24.8	12.88

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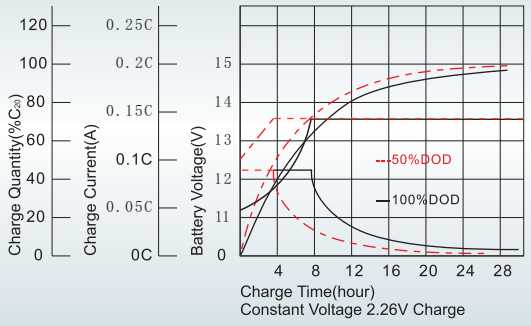
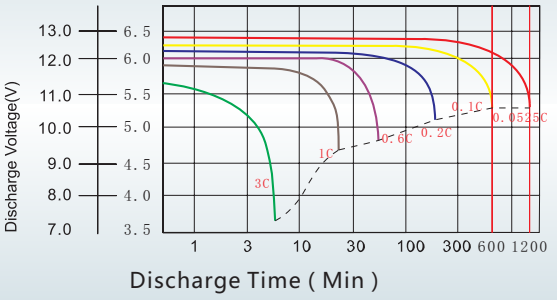
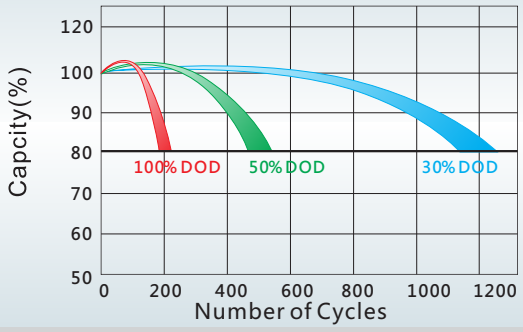
Charge Characteristics for Float Use @25℃/77℉



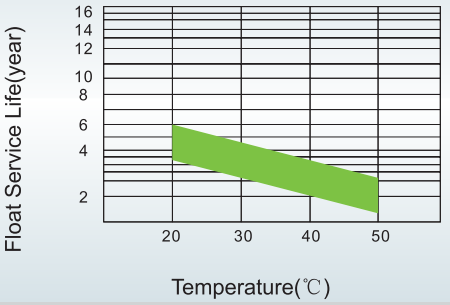
Discharge Characteristics at Various Rates @25℃/77℉



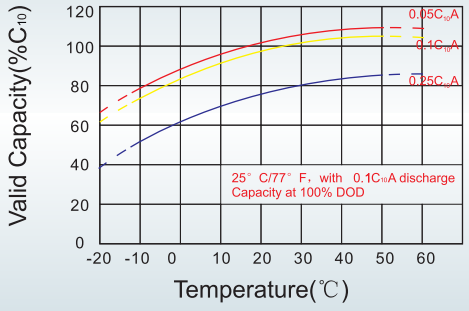
Cycle Life in Relation to Depth of Discharge



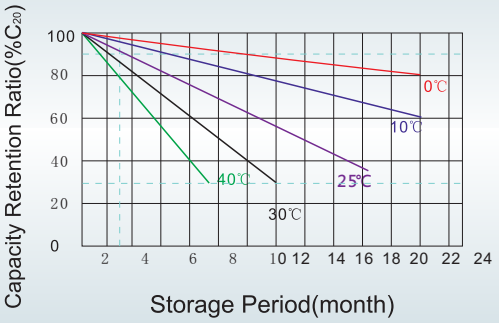
Float Service Life



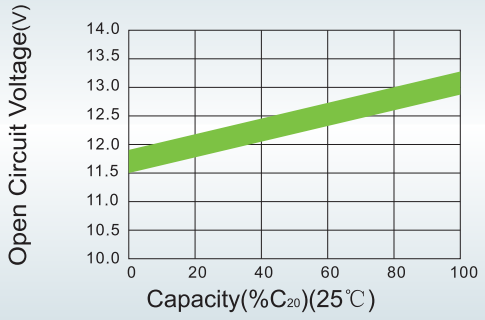
Temperature and Valid Capacity



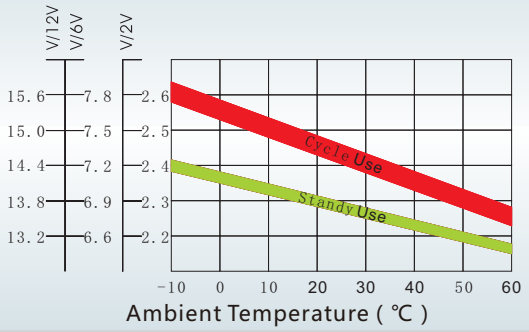
Self Discharge Characteristics



Capacity and Open Circuit Voltage



Relationship between Charging Voltage and Temperature



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Mh28469

Rosen Solar Energy Co., Ltd.

Add: Build B, Jiaqiao International, Shushan District Hefei, Anhui China
Tel: +86 181 56448850
Fax:+86 551 63365891
Email: info@rosensolar.com
Website: www.rosensolar.com