

Solar 12V Gel Battery

Sohigh BAT 12V

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High Technology. High Quality



SOLAR 12V GEL BATTERY

Sohigh BAT

**SOHIGH
SOLAR**



Low Self Discharge



Excellent Discharge Performance



Maintenance-Free Absorbent Glass
Mat Technology



Long Designed Service Life, Deep Cycles



Environment Friendliness



Wide Suitability Of Ambient Temperature Range

NOTICE: Manual measurement, product specifications and dimensions may have errors, subject to actual receipt.

Deep Cycle Battery

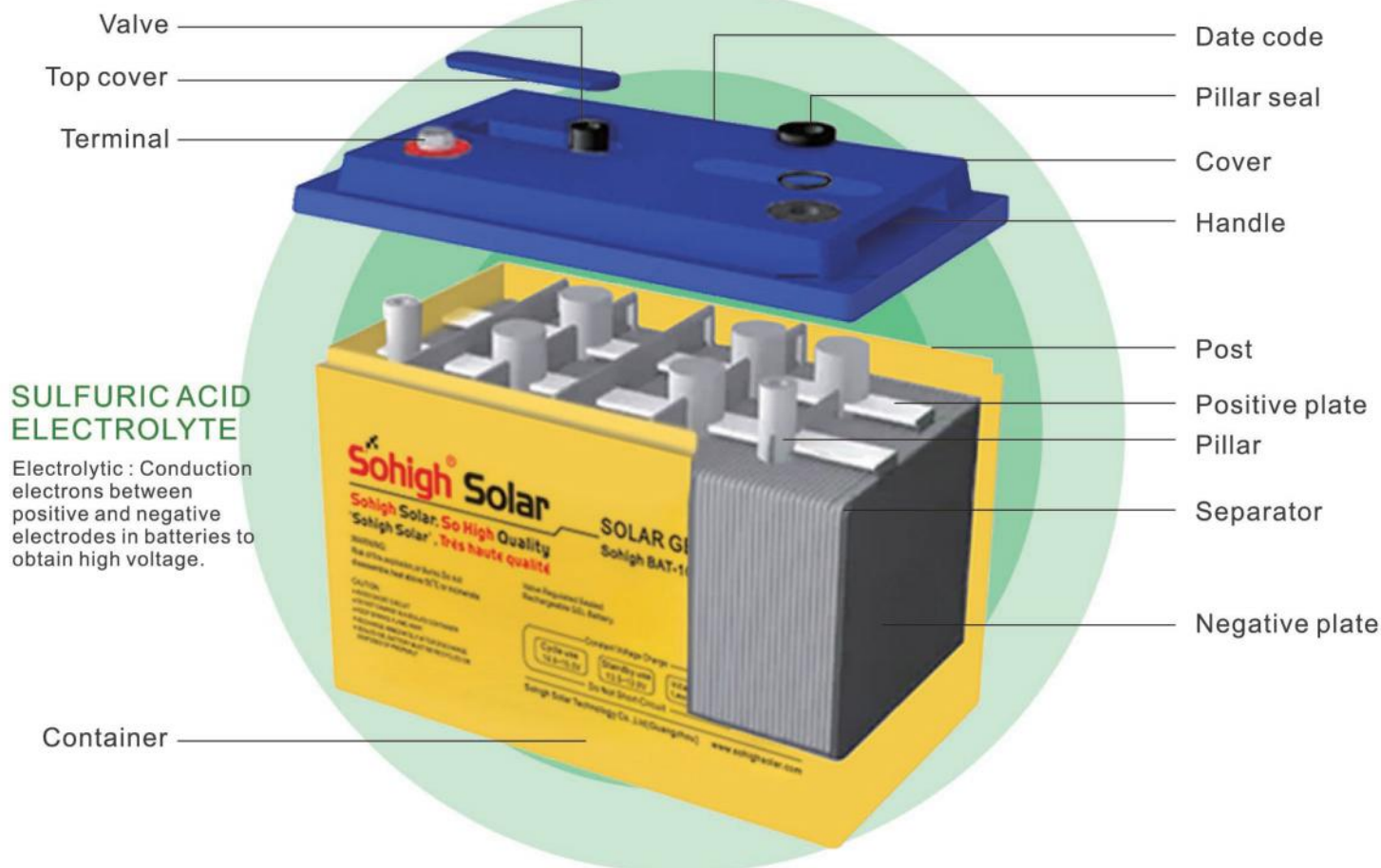
(GEL Deep Cycle) series is specially designed for frequent cyclic discharge. By using strong grids and specially designed active material, the DC series battery offers 30% more cyclic life than the standby series. It is suitable for solar energy systems, marine and RV etc.

Application

- Telecommunication backup
- Power plants
- Burglar alarms
- Medical equipments (stationary and portable .e. X- ray)
- Computer back-up (high power)
- Communication systems
- Fire alarm systems
- Transmitter systems
- Cash register systems
- Emergency lights signal systems

Product Features

- Solve electrolyte stratification, sulfuric acid evenly distributed
- The silica gel electrolyte lead-acid batteries can be so deep discharge, thus greatly extending the cycle life of the battery
- The battery float current is small (about 1/3 AGM battery), the floating charge lower energy consumption, less warming, reduce battery thermal runaway risk
- Low self-discharge rate of the battery
- By high partition, adsorption and strong
- Comply with environmental requirements, ease of use
- Longer Service Life
- Low Internal Resistance
- Longest Available Standby Life
- High Energy Density
- Lower Self Discharge
- Good deep discharge cycle capability
- Excellent Recovery from Deep



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Lead-calcium Multi-element Alloy Plate



High Current Discharge Performance

Make the structure cluster effect of active substance better



Using Medium And High Temperature Curing Process

The utilization rate of active substance and high current discharge.



Cycles Test

Strict process control and high quality raw material selection ensure stable product performance.

Specifications

Standby Use

Initial Charging Current less than 4.25A. Voltage
2.23V~2.27V at 25°C(77°F)Temp. Coefficient -3mV/°C

Equalization Use

Initial Charging Current less than 4.25A. Voltage
2.30V~2.37V at 25°C(77°F)Temp. Coefficient -4mV/°C

Cycle Use

Initial Charging Current less than 4.25A. Voltage
2.40V~2.50V at 25°C(77°F)Temp. Coefficient -5mV/°C

Self Discharge

Gel batteries can be stored for more than 6 months at 25°C
Self-discharge ratio less than 3% per month at 25°C
Please charge batteries before using

Capacity Factors With Different Temperature

Temperature	-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
Capacity Factor	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V / ce	1.75V	1.70V	1.60V
Discharge Current (A)	(A)≤0.2C	0.2C < (A) < 1.0C	(A)≥1.0C

Charging Method

Constant Voltage	-0.2Cx2h + 14.4-14.7Vx24h, Max. Current 0.3C
Constant Current	-0.2Cx2h + 0.1Cx7h+0.05CX4h
Fast	-0.2Cx2h + 0.3Cx3h

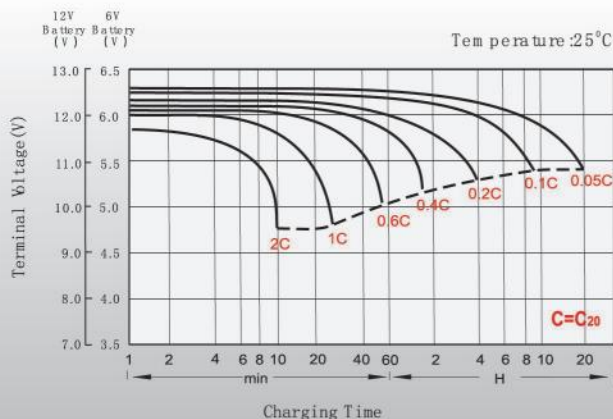
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Solar 12V Gel Battery

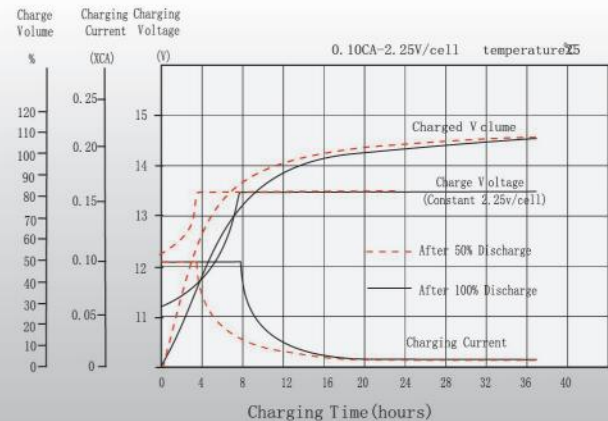
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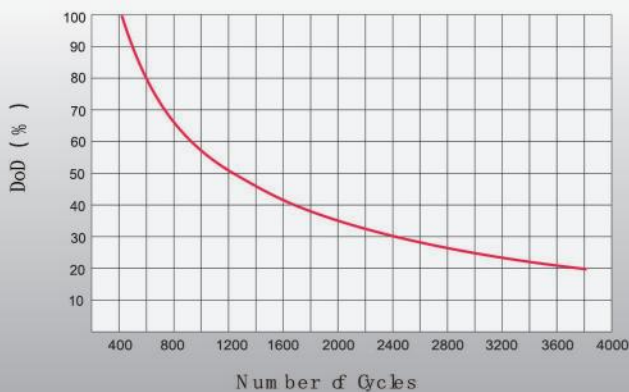
Discharge Characteristics



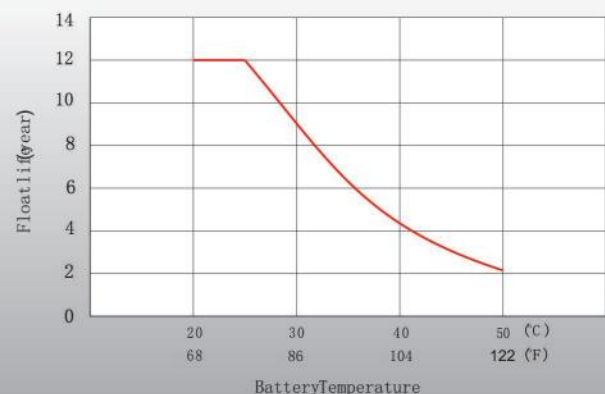
Float Charging Characteristics



Cycle Life in Relation to Depth of Discharge



Effect of Temperature on Long Term Float Life



Maintenance & Cautions

Cycle service

Avoid battery over discharge, especially battery series connection use.

Charged with recommend voltage, ensure battery can be full recharged

In general, recharge capacity should be 1.1-1.15 times discharge capacity

Effect of temperature on cycle charge voltage: -4mV/C/Cell

There are a number of factors that will affect the length of cyclic service.

The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.

Generally speaking, the most important factors is depth of discharge.

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Show Room ☉ : No.61.3Floor Block B, Tian Xiu Building, YueXiu District Guangzhou.
Show Room ☉ : Sohigh Solar Office, Block A Yueyang Trade Mall, Yuexiu District Guangzhou.
TEL: 0086-20-83524389 / Email: sohigh@sohighsolar.com
Web: www.sohighsolar.com
Brand 'Sohigh Solar' had registered in U.S., Europe, Africa etc.
La marque 'Sohigh Solar' s'est enregistrée aux États-Unis, en Europe, en Afrique, etc.

Experience start from 2005
Expérience à partir de 2005



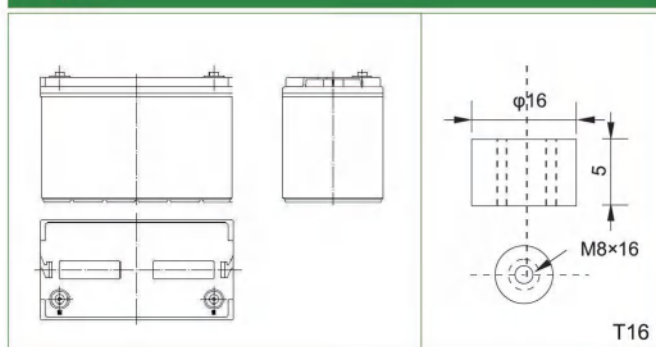
Sohigh BAT-100AH

Solar 12V Gel Battery

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Layout



Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		120Ah
Dimensions	Length	409±5mm(16.10inch)
	Width	176±5mm(6.93inch)
	Height	225±5mm(8.86inch)
	Total Height	225±5mm(8.86inch)

Characteristics

Capacity (25°C)	10HR(10.8V)	100Ah
	3HR(10.8V)	75Ah
	1HR(10.5V)	55Ah
Terminal type		T 16
Internal resistance (Fully charged,25°C)		Approx.5mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12 months	Remaining Capacity: 65%
Nominal operating temperature		25°C ± 3°C (°F ± 77°F)
Operating temperature range	Discharge	-15°C ~ 50°C (5°F ~ 122°F)
	Charge	-10°C ~ 50°C (14°F ~ 122°F)
	Storage	-20°C ~ 50°C (-4°F ~ 122°F)
Float charging voltage(25°C)		13.50 to 13.80 V Temperature compensation: -18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation: -30mV/°C
Maximum charging current		20A
Maximum discharge current		800A(5 sec.)
Designed floating life(20°C)		12 years

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Gel	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C,77°F)

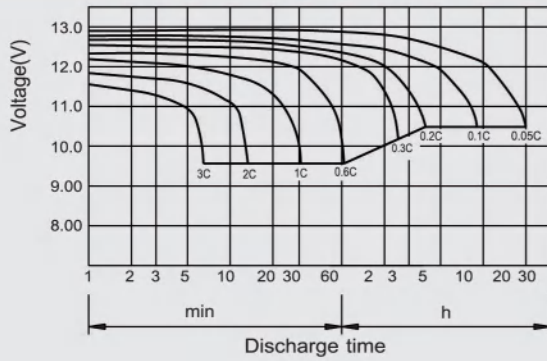
F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	195	160	97.0	60.0	36.5	26.0	20.4	17.3	12.2	10.2	5.40
9.90V	189	156	95.1	59.1	36.3	25.9	20.3	17.2	12.2	10.2	5.38
10.2V	181	150	92.2	57.6	36.0	25.7	20.1	17.1	12.1	10.1	5.37
10.5V	174	145	89.9	55.8	35.5	25.5	20.0	17.0	12.0	10.1	5.34
10.8V	164	138	86.6	54.0	34.6	25.0	19.4	16.5	11.6	10.0	5.30

Constant Power Discharge Characteristics Unit: W(25°C,77°F)

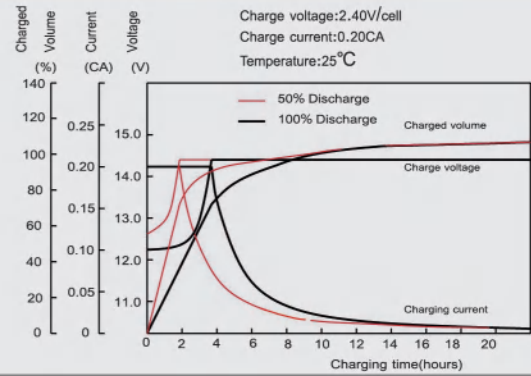
F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	2106	1757	1088	684	423	306	240	205	145	122	64.7
9.90V	2043	1715	1067	674	421	304	238	204	145	121	64.6
10.2V	1959	1651	1034	657	417	302	237	202	144	121	64.4
10.5V	1874	1595	1009	636	411	300	235	201	143	120	64.0
10.8V	1769	1511	972	616	400	294	228	195	138	119	63.6

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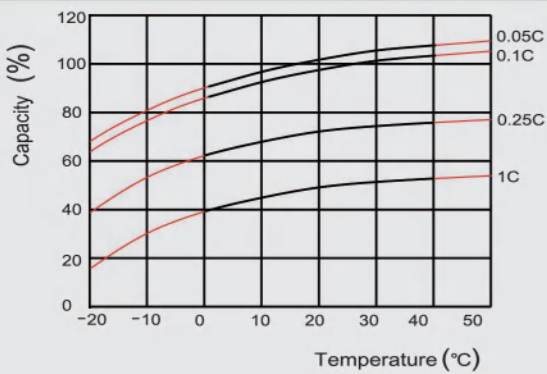
Discharge characteristics(25°C)



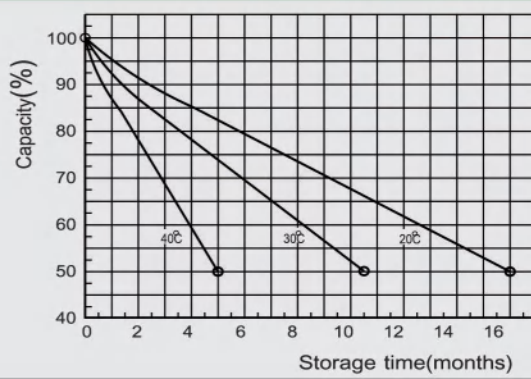
Charging characteristics



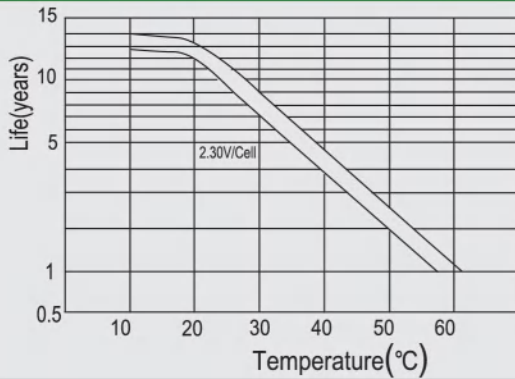
Effect of Temperature on Capacity



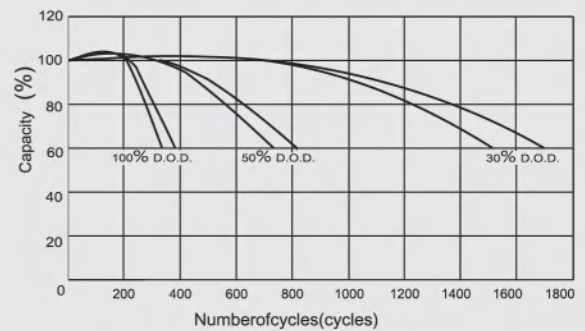
Self-discharge characteristics



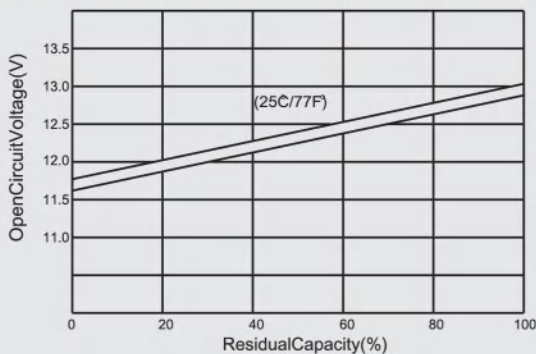
Temperature effects on float life



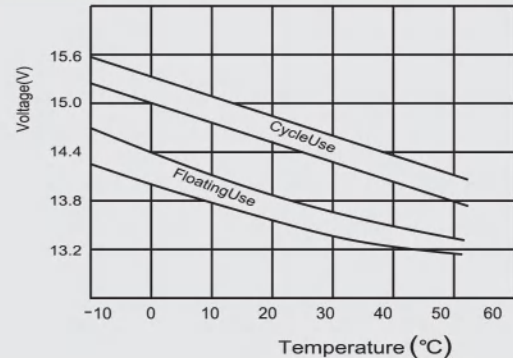
Cycle life on D.O.D (25°C)



The relationship for OCV and Capacity (25°C)



The relationship for Charging voltage and Temperature



Sohigh BAT-150AH

Solar 12V Gel Battery

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Characteristics

Capacity (25°C)	10HR(10.8V)	150Ah
	3HR(10.8V)	112.5Ah
	1HR(10.5V)	83Ah

Terminal type	T 16
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Internal resistance (Fully charged, 25°C)	Approx. 3.8mΩ
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Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%

Self-discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12 months	Remaining Capacity: 65%

Nominal operating temperature	25°C ± 3°C (77°F ± 5°F)
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Operating temperature range	Discharge	-15°C ~ 50°C (5°F ~ 122°F)
	Charge	-10°C ~ 50°C (14°F ~ 122°F)
	Storage	-20°C ~ 50°C (-4°F ~ 122°F)

Float charging voltage(25°C)	13.50 to 13.80 V
	Temperature compensation: -18mV/°C

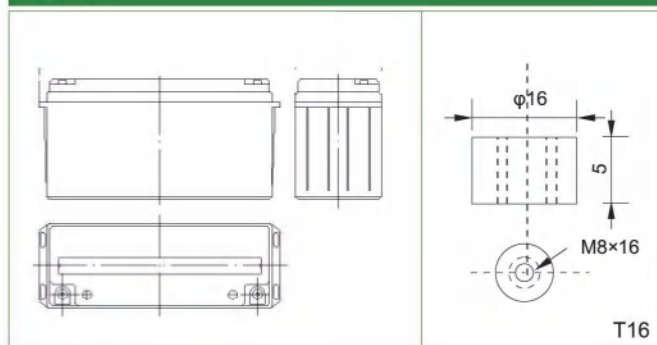
Cyclic charging voltage(25°C)	14.40 to 14.70V
	Temperature compensation: -30mV/°C

Maximum charging current	30A
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Maximum discharge current	1200A(5 sec.)
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Designed floating life(20°C)	10 years
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Layout



Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		150Ah
Dimensions	Length	485±2mm(19.09inch)
	Width	172±2mm(6.77inch)
	Height	240±2mm(9.45inch)
	Total Height	240±2mm(9.45inch)

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Gel	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	293	240	146	90.0	54.8	39.0	30.6	26.0	18.4	15.3	8.09
9.90V	284	234	143	88.7	54.5	38.8	30.4	25.9	18.3	15.2	8.08
10.2V	272	226	138	86.4	54.0	38.5	30.2	25.7	18.1	15.2	8.05
10.5V	260	218	135	83.7	53.2	38.3	30.0	25.5	18.0	15.1	8.01
10.8V	246	206	130	81.0	51.8	37.5	29.1	24.7	17.5	15.0	7.95

Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	3159	2635	1633	1026	635	459	360	307	218	182	97.1
9.90V	3064	2572	1600	1011	631	456	358	306	217	182	96.9
10.2V	2938	2477	1551	985	625	453	355	304	215	181	96.6
10.5V	2812	2393	1513	954	616	450	353	301	214	180	96.1
10.8V	2654	2266	1458	923	600	441	342	292	207	179	95.4

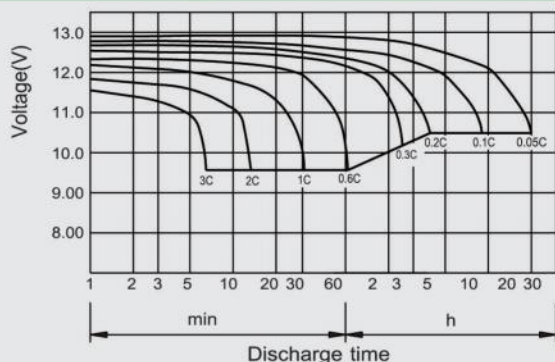
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Sohigh BAT-150AH

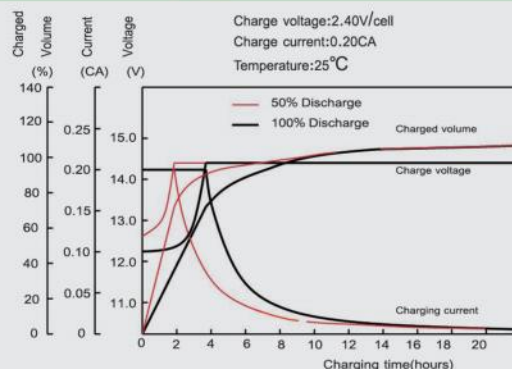
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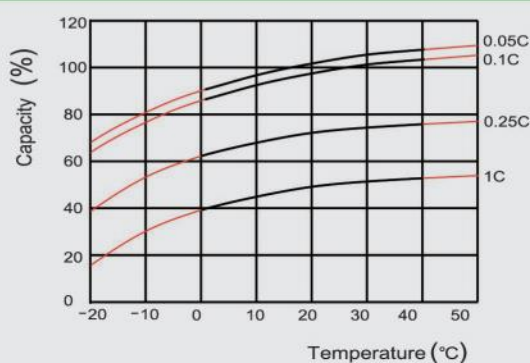
Discharge characteristics(25°C)



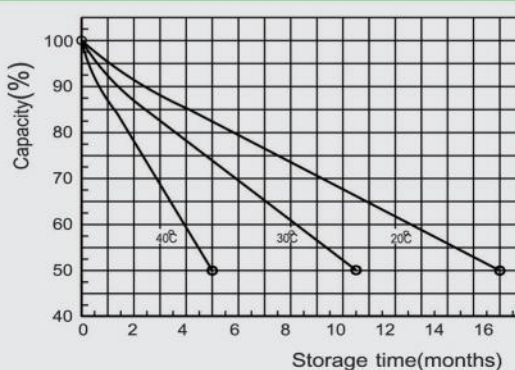
Charging characteristics



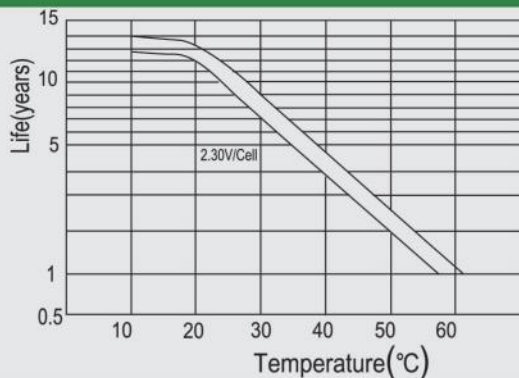
Effect of Temperature on Capacity



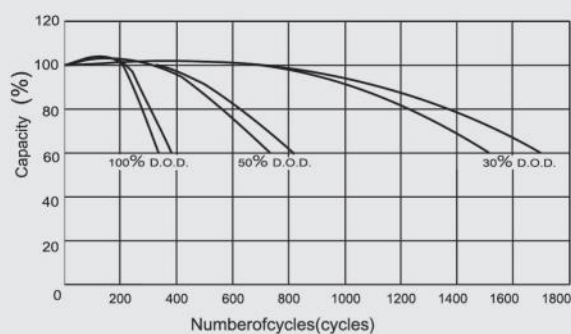
Self-discharge characteristics



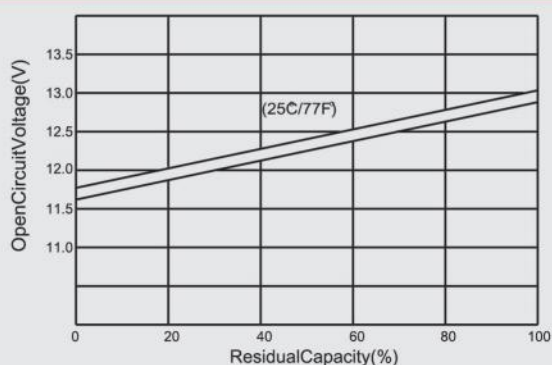
Temperature effects on float life



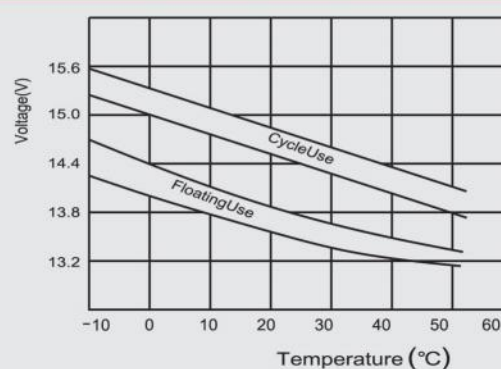
Cycle life on D.O.D (25°C)



The relationship for OCV and Capacity (25°C)



The relationship for Charging voltage and Temperature



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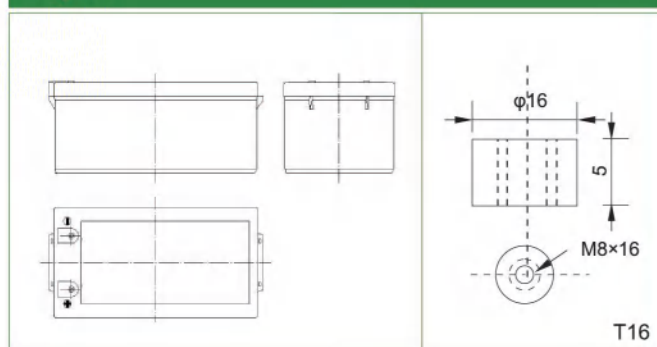
Sohigh BAT-250AH

Solar 12V Gel Battery

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Layout



Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		250Ah
Dimensions	Length	521±2mm(20.51inch)
	Width	269±2mm(10.59inch)
	Height	220±2mm(8.66inch)
	Total Height	224±2mm(8.82inch)

Characteristics

Capacity (25°C)	10HR(10.8V)	250Ah
	3HR(10.8V)	187.5Ah
	1HR(10.5V)	140Ah
Terminal type		T 16
Internal resistance (Fully charged, 25°C)		Approx. 2.8mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12 months	Remaining Capacity: 65%
Nominal operating temperature		25°C ± 3°C (77°F ± 5°F)
Operating temperature range	Discharge	-15°C ~ 50°C (5°F ~ 122°F)
	Charge	-10°C ~ 50°C (14°F ~ 122°F)
	Storage	-20°C ~ 50°C (-4°F ~ 122°F)
Float charging voltage(25°C)		13.50 to 13.80 V Temperature compensation: -18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation: -30mV/°C
Maximum charging current		50A
Maximum discharge current		1500A(5 sec.)
Designed floating life(20°C)		12 years

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Gel	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	400	243	150	91.4	65.0	51.0	43.4	38.3	30.6	25.5	13.5
9.90V	390	238	148	90.8	64.6	50.7	43.1	38.0	30.4	25.4	13.5
10.2V	376	230	144	90.0	64.2	50.4	42.8	37.8	30.2	25.3	13.4
10.5V	363	225	140	88.7	63.8	50.0	42.5	37.5	30.0	25.2	13.3
10.8V	344	217	135	86.4	62.5	48.5	41.2	36.4	29.1	25.0	13.3

Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	4392	2721	1710	1058	765	600	512	452	364	304	162
9.90V	4287	2666	1684	1052	760	596	509	449	361	303	162
10.2V	4128	2585	1642	1042	755	592	506	446	359	302	161
10.5V	3988	2522	1590	1027	750	588	502	443	356	301	160
10.8V	3777	2430	1539	1001	735	570	487	430	346	299	159

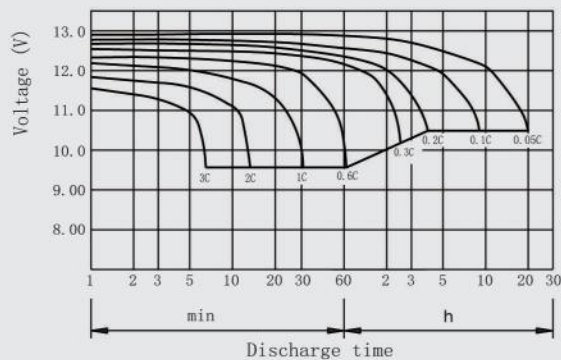
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Sohigh BAT-250AH

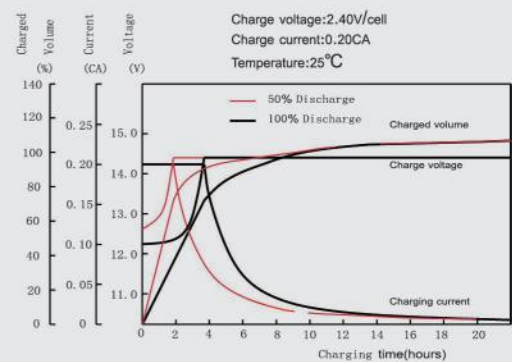
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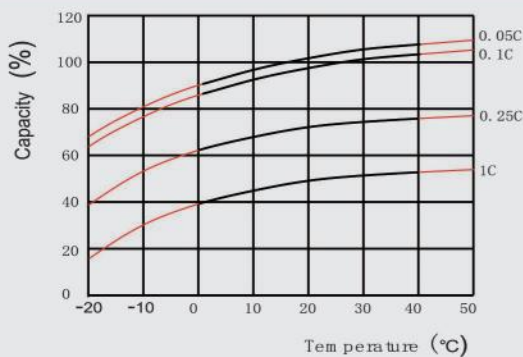
Discharge characteristics(25°C)



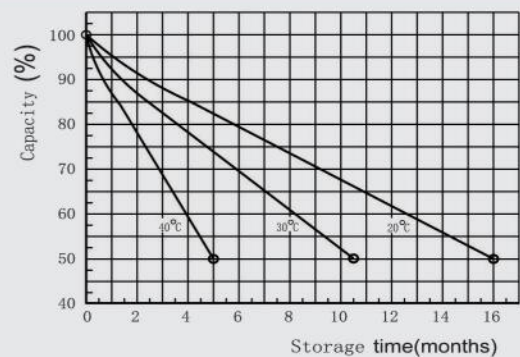
Charging characteristics



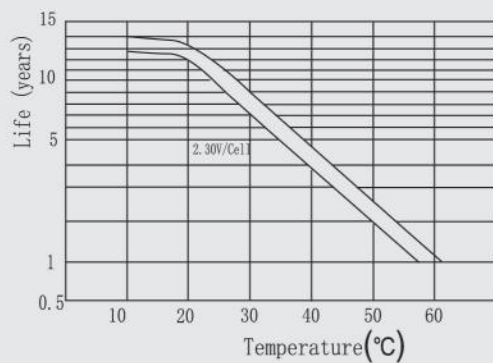
Effect of Temperature on Capacity



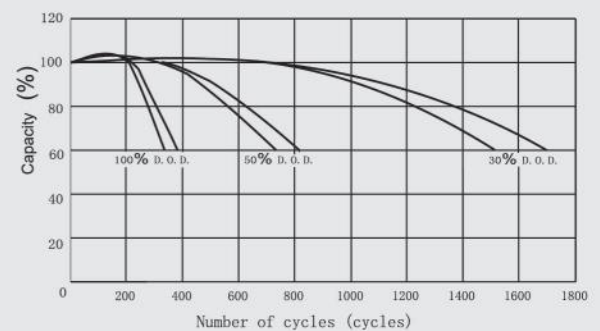
Self-discharge characteristics



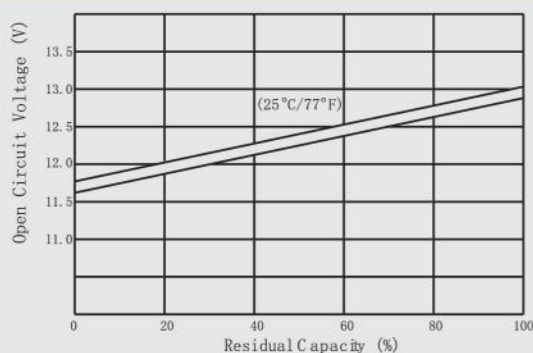
Temperature effects on float life



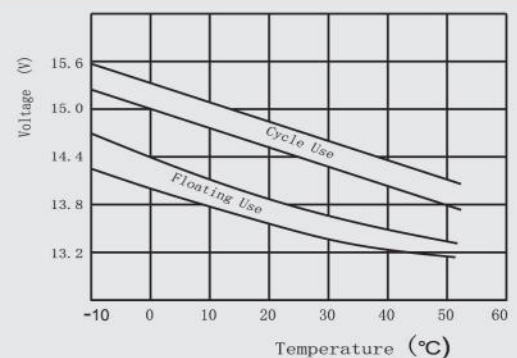
Cycle life on D.O.D (25°C)



The relationship for OCV and Capacity (25°C)



The relationship for Charging voltage and Temperature



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