



# GFMJ-300 6 OPzV 300



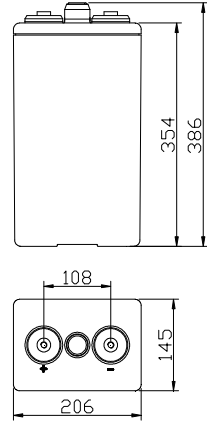
### Application:

- Solar energy, wind energy
- Electric power, nuclear power
- Communication
- Ship, maritime affairs
- UPS, medical facilities and emergency lighting
- Situation with high environmental protection and energy-saving

### Features of performance application

- ✚ Designed service life of 20 years
- ✚ High cycle service life
- ✚ Better temperature resistance performance
- ✚ Excellent deep cycle performance
- ✚ Superior low current discharge performance
- ✚ Stronger constant power discharge capability
- ✚ Better charge acceptability
- ✚ Better safety performance and reliability
- ✚ Modular and personified installation design
- ✚ High Performance/price ratio and low yearly operating cost
- ✚ Eco-friendly, cycle application

Rated voltage	2 V
Capacity@ 25°C(77°F)	300Ah @ 10hr to 1.80V per cell
Weight	About 27kg (59.4 lb)
Reference internal resistance (charged)	About 0.45mΩ@ 25°C(77°F)
Short-circuit current	About 4556A (0.1S reference value)
Max discharge current	900A (5sec)
Self-discharge	< 20% 180 days @ 25°C (77°F)
Temperature range	Application: -20°C ~ 50°C (-4°F ~ 122°F) Storage: 0°C ~ 20°C (32°F ~ 68°F) Recommendation: 20°C ~ 25°C (68°F ~ 77°F)
Max charge current	60A
Charge voltage @ 25°C(77°F)	Float charge: 2.23V, average charge: 2.35V Temperature compensation factor: -3 mV/°C
Terminal output	M10 copper terminal (HPb59-1)
Recharge time	See figure 2



### Structure features of Shuangdeng GFMJ series VRLA gel battery:

- Electrolyte: primary material adopts Germany gas silicon dioxide, the material will be the thin collosol state when it's injected initially, and it can fill the whole plate space of battery, and each part of plate can react evenly. The flooded electrolyte design can avoid dry up of battery when it's in high temperature and over charged, the thermal capacity is big and heat-elimination is fine, accordingly, thermal runaway can be avoided. The electrolyte is in the gel state in finished battery without flowing, accordingly, leakage and lamination can be avoided.
- Plate: positive plate adopts tubular type plate which can effectively prevent active substance falling, the positive plate frame is molded with multi-component alloy, the crystal particle of alloy structure is tiny and dense, the corrosion-resisting performance is fine and service life is long. Negative plate adopts pasted plate, the grid adopts radiated structure which enhances utilization ratio of active substance and discharge capability of strong current, and the charge reception capability is strong.
- Battery case: it's made of ABS material, corrosion prevention is fine, strength is high, and appearance is beautiful, it can be sealed with lid reliably which can prevent potential leakage risk.
- Separator: adopt special micro-pore PVC-SiO<sub>2</sub> separator from Europe AMER-SIL Company, the porosity of separator is big and resistance is low. It has bigger electrolyte storage space.
- Terminal sealing: the built-in copper core lead-base terminal post has stronger current carrying capacity and corrosion resistance. The unique double sealing structure of terminal post can effectively avoid leakage, to guarantee reliability of terminal post sealing.
- Safety valve: adopt Germany technology, constant opening and closing valve, high reliability, the accumulator case expansion, damage and electrolyte dry up can be avoided.



### Execution standard:

IEC60896-21/22 DIN40742  
BS EN 61427-2002  
YD/T 1360-2005  
Q/321284KCC 03-2006

### Authentication and certificate:

**Certificate of Qualification on Perfecting Measurement & Measuring System**

GB/T19022-2003  
ISO10012:2003、IDT

### Quality Management System

**Authentication**

GB/T19001-2000  
NO.03006Q10002R0M-2

### Environmental Management System

**Authentication**

ISO 14001:2004  
NO.010607E2024R1M-2

### Occupational Health Management System

**Authentication**

GB/T28001-2001  
NO.010607S10147R0M-2

### Product authentication:

YD/T1360-2005  
NO.030074640567R1M

### CE authentication

EN 61000-6-3:2001+A11:2004  
EN 61000-6-1:2001

### National Industrial Product Production License

XK06-044-00012

### Product Quality Test Free Certificate

(2006)GM(321630488)

### Export product quality license

Discharge current at different final voltages and different discharge rates unit: A (25°C, 77°F)

	5min	10min	15min	30min	45min	1hr	1.5hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	100hr	120hr
1.90V	273	232	221	176	156	134	102	87	64	52	45	31	27	14.04	3.64	3.09
1.85V	367	299	270	208	167	141	112	89	68	55	48	33	28	15.44	3.84	3.26
1.80V	376	342	318	243	197	158	142	97	77	59	50	35	31	16.21	3.99	3.39
1.75V	406	380	358	259	216	166	145	108	79	60	52	37	33	16.85	4.11	3.49

Discharge power at different final voltages and different discharge rates unit: W (25°C, 77°F)

	5min	10min	15min	30min	45min	1hr	1.5hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	100hr	120hr
1.90V	540	454	343	304	271	237	199	160	125	102	87	62	53	28.08	7.28	6.18
1.85V	557	472	384	337	301	265	221	177	135	113	95	67	57	30.57	7.60	6.45
1.80V	579	566	516	420	367	314	260	205	157	128	108	75	63	31.77	7.82	6.64
1.75V	640	625	585	464	402	340	279	217	162	131	109	76	65	32.52	7.93	6.74



**GFMJ-300**  
**6 OPzV 300**

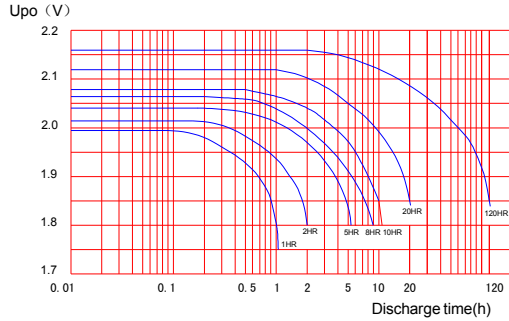


Figure 1 Discharge characteristic curve (20°C)

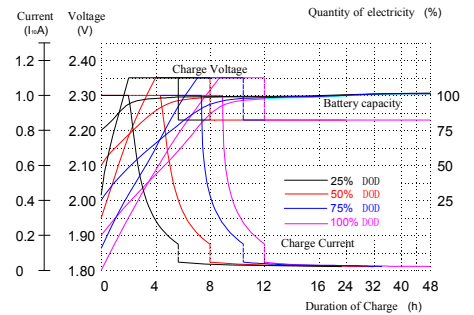


Figure 2 Constant voltage charge characteristic curve

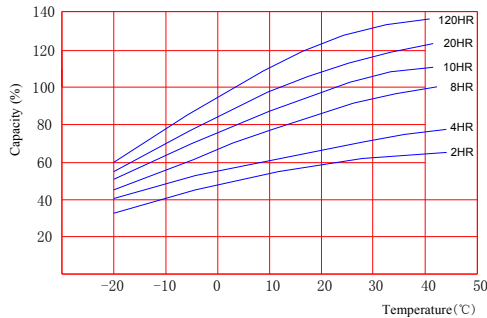


Figure 3 Relation curves between capacity and temperature

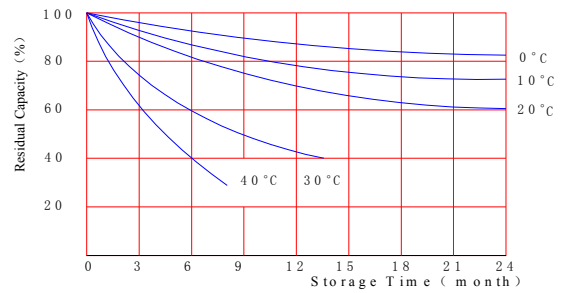


Figure 4 Self-discharge characteristic curve

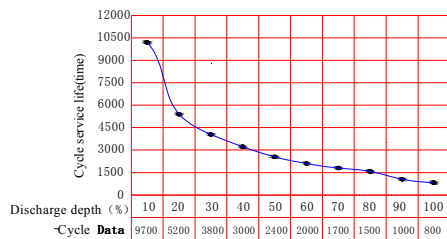


Figure 5 Relation curve between discharge depth and cycle service life

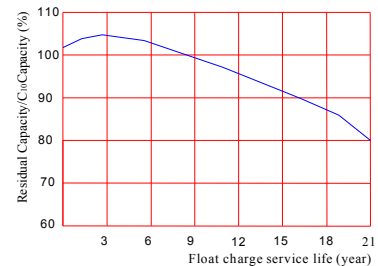


Figure 6 Relation curve between Float charge service life and residual capacity

Remark: a) test circumstances: 20-30°C, relative humidity is 50~80percent;  
b) charge mode: electricity of charge is equal to 105~115percent of discharge  
c) residual capacity is 80 percent  $C_{10}$

Free service line: +86-4008-899-886  
FAX: +86-25-83176850  
Tel: +86-25-83176860  
E-mail: [gigt@chinashoto.com](mailto:gigt@chinashoto.com)  
E-mail: [joyce.zhong@chinashoto.com](mailto:joyce.zhong@chinashoto.com)  
Web: <http://www.chinashoto.cn/>

Shuangdeng Group promises to provide excellent engineering service for customers, including product solution, installation design and on-site maintenance.

The above data are only taken as reference instead of inspection standard. Additional notification won't be available for parameter change due to improvement and regulation of product. Inspection shall be performed in accordance with standards.

We must make a statement, when the battery service life and safe operating performance is confirmed, the test condition will be stricter; accordingly, the battery shall not be used in these conditions, because it's difficult for battery to reach expected service life.