



# GFMJ-350 5 OPzV 350



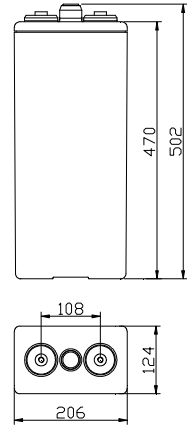
### Application:

- 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)	350Ah @ 10hr to 1.80V per cell
Weight	About 29kg (63.8 lb)
Reference internal resistance (charged)	About 0.42mΩ@ 25°C(77°F)
Short-circuit current	About 4879A (0.1S reference value)
Max discharge current	1050A (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	70A
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	303	261	208	191	175	152	120	103	76	63	53	39	33	16.38	4.24	3.61
1.85V	360	336	275	227	188	174	131	107	81	66	57	41	34	18.01	4.47	3.81
1.80V	362	344	320	265	204	185	151	117	88	72	62	43	37	18.91	4.64	3.96
1.75V	375	371	368	290	215	198	166	122	91	74	63	44	38	19.85	4.78	4.08

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	599	510	362	319	284	249	216	182	142	119	102	74	64	32.76	8.48	7.22
1.85V	624	531	405	354	317	279	241	202	158	131	112	80	69	35.66	8.85	7.54
1.80V	656	625	523	450	401	351	295	239	187	152	128	90	75	37.06	9.09	7.76
1.75V	678	672	595	499	445	391	324	257	196	158	132	95	78	38.31	9.23	7.87



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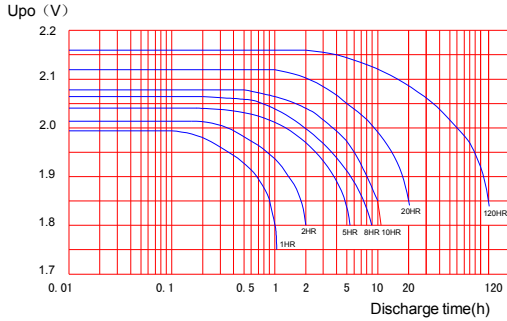


Figure 1 Discharge characteristic curve (20°C)

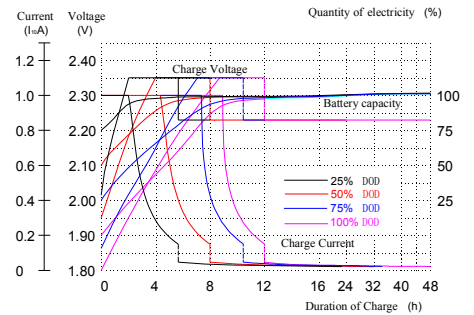


Figure 2 Constant voltage charge characteristic curve

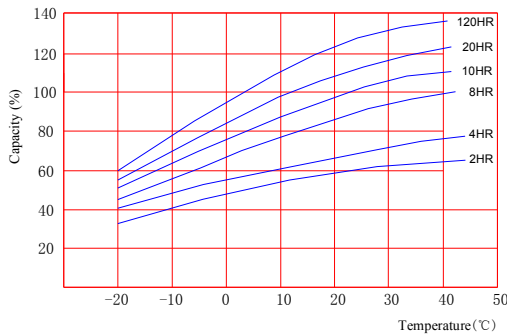


Figure 3 Relation curves between capacity and temperature

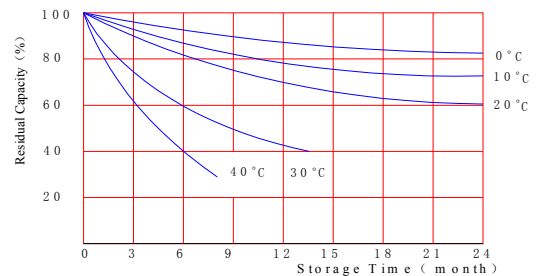


Figure 4 Self-discharge characteristic curve

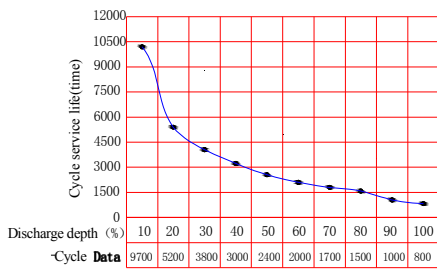


Figure 5 Relation curve between discharge depth and cycle service life

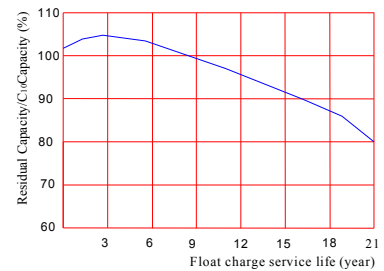


Figure 6 Relation curve between Float charge service life and residual capacity

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<sub>10</sub>

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/>

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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.