

### Gel Battery carvan/yacht/marine equipments

GPGATE® Gel batteries outperform traditional batteries and are a waterproof battery solution for marine equipments. It is also used in high-end cars. The batteries exceed rigorous safety tests and incorporate design features that adhere to discharge performance, wide operating temperatures, waterproof and long duration cyclic current draws.

MECHANICAL SPECIFICATIONS		
Industry Reference	ISO9001	
Length A (in/mm)	12.8	325
Width B (in/mm)	6.5	166
Height C (in/mm)	7.2	184
Total Height D (in/mm)	7.2	184
Weight (lbs/kgs)	21.0	46
Terminal *	F7	
Technology	AGM VRLA	

ELECTRICAL SPECIFICATIONS		
Voltage (V)	12	
Internal Resistance (mΩ)	7	
Short Circuit (A) (20°C / 68°F)	520	
Self-Discharge (20°C / 68°F)	2-3% per month	
Charge Temperature	Min: -10°C (14°F)   Max: 50°C (122°F)	
Storage Temperature	Min: -10°C (14°F)   Max: 50°C (122°F)	
Amp Hours (AH)	10 HR	65
	20 HR	72

**NOTE 1:** Dimensions have a  $\pm 2$  mm (0.08 in) tolerance. Weights may vary.

**NOTE 2:** Refer to terminal guide on website for torque values.

**NOTE 3:** Extra considerations must be given when designing systems for use at maximum temperatures.

**NOTE 4:** Internal Resistance is approximate.

### FEATURES

#### Selling points

The performance of colloidal lead-acid battery is better than that of valve-regulated sealed lead-acid battery. The colloidal lead-acid battery has stable performance, high reliability, long service life, strong adaptability to ambient temperature (high and low temperature), and ability to withstand long-term discharge. , Cyclic discharge capacity, deep discharge and high current discharge capacity, and have the advantages of overcharge and over-discharge self-protection.

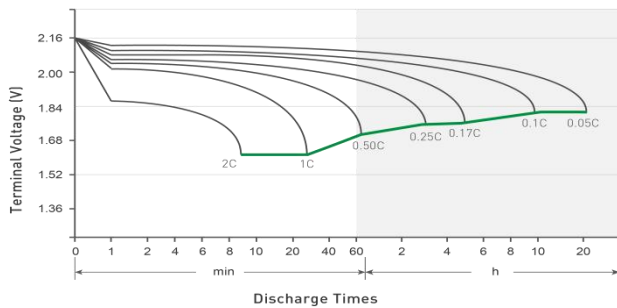
1. Long-term discharge characteristics.
2. It is suitable for backup and energy storage power supply.
3. Special plate design, long cycle life.
4. The special lead-calcium alloy formula enhances the corrosion resistance of the grid and prolongs the service life of the battery.
5. The special separator enhances the internal performance of the battery.
6. Large heat capacity, reducing the risk of thermal runaway, not easy to dry up, and can be used in harsh environments.
7. High gas recombination efficiency.
8. There is very little water loss and no electrolyte stratification.
9. Long storage period.
10. Good deep discharge recovery performance.
11. The use of fumed silica has small particle size and large specific surface area.

#### Compliant Standards:

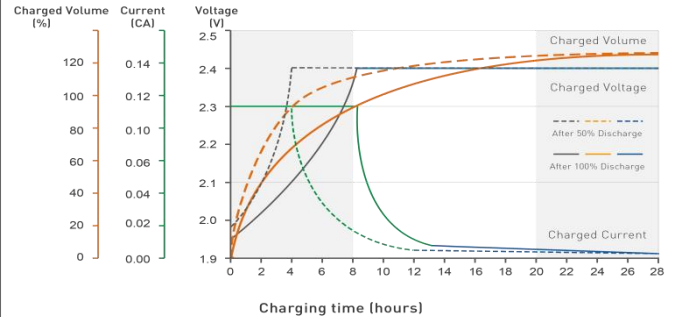
GB/T 22199-2008 、 GB/T18332.1-2009 ; Passed ISO9001、 ISO14001、 ISO18001、 CE certificate

## BATTERY CHARACTERISTICS

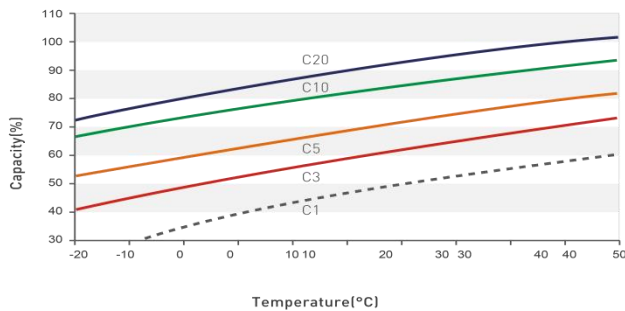
### Charge Characteristics



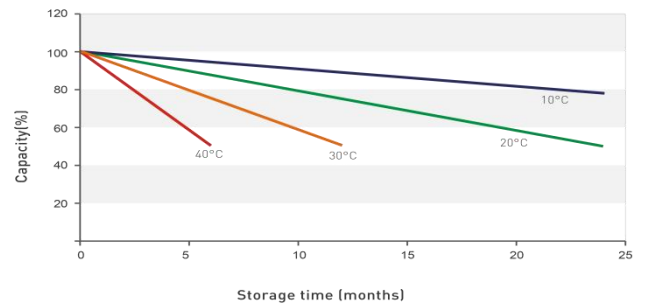
### Charging Characteristics(25°C)



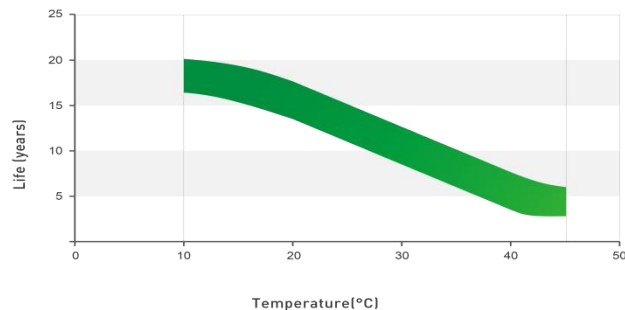
### Effect Of Temperature On Capacity



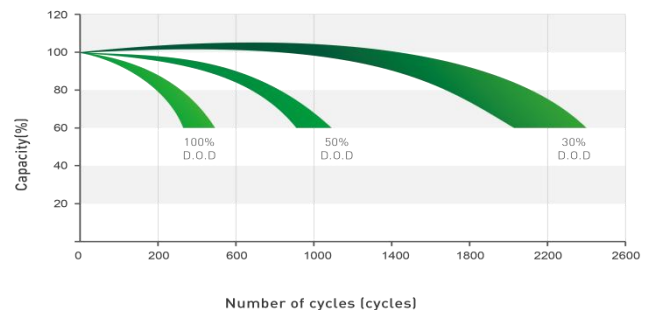
### Self-Discharge Characteristics



### Effect Of Temperature On Long Life



### Cycle Life On D.O.D(25°C)



## NOTES

1. Due to self-discharge characteristics of lead-acid battery technologies, batteries should be top charged within 6 months of storage to ensure optimum performance, prevent sulphation and permanent capacity loss.
2. Charge profile recommendations correspond to battery voltages at 25°C (77°F). For temperatures below, adjust +5mVPC/°C (+3mVPC/°F). Temperatures above, adjust -5mVPC/°C (-3mVPC/°F). Temperature compensated charging helps ensure optimum battery runtime and life performance.
3. Charge profile recommendations depend on application and charger. IUI (or IUI with Pulse) is appropriate for applications that require frequent and deep discharges. IUU is appropriate for applications that are on standby and cycled less frequently.
4. IUI with Pulse algorithm uses a pulse termination criterion. The finish current is pulsed on and off in order to keep the battery voltage at a minimum while still reaching target overcharge. If average VPC exceeds U2 and the charger output has been on for more than 30 seconds, the output is shut off until VPC falls to U3.
5. IUI Charge Profile (if applicable), may have a continuous float phase added (2.27VPC).

