

General features for MPG (GEL) battery

- * Nanometer SiO₂ and H₂SO₄ gelled electrolyte technology for gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- * Computer designed lead, calcium tin alloy grid for high power density.
- * Not restricted for air transport-complies with IATA/ICAO Special Provision A67.UL-recognized component.
- * Long service life, float or cyclic applications, specially suitable for motive power applications, such as golf trailer, sruubber, folklift, etc.
- * Maintenance-free operation. Lower self discharge.
- * Case and cover available in both standard and flame retardant ABS.
- * The design life to 2V GEL battery is 20years, the deep discharge cycles increased over 50% as compared with the AGM battery.



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MPG2-1000 (2V1000Ah)

Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		1000 Ah
Dimensions (±2mm)	Total Height (Include top cover)	367 mm (14.45 inches)
	Height	330 mm (12.99 inches)
	Length	475 mm (18.7 inches)
	Width	175 mm (6.89 inches)
Weight Approx(±3%)		66.0 Kg (146.0bs)

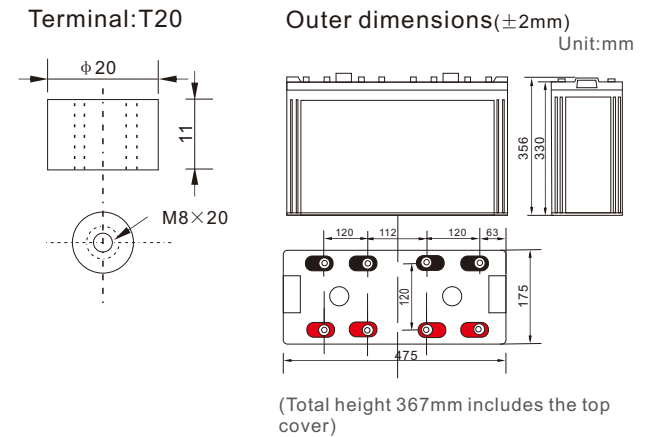
Battery picture and construction



Battery Construction

Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Gelled acid	PVC	Rubber	Copper

Outer dimension and terminal



Characteristics

Capacity 25°C(77°F)	10 hour rate(100A, 1.8V) 5 hour rate(160A, 1.75V) 1 hour rate(600 A, 1.6V)	1000Ah 800Ah 600Ah
Internal Resistance	Full charged battery at 25°C(77°F) Approx 0.30mΩ	
Capacity affected by Temperature (10hour rate)	40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F)	102% 100% 85% 65%
Remaining capacity Self-Discharge At 25°C(77°F)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type	T20	
Max. Discharge current 25°C/(77°F)	7500A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge Charge Storage	-20°C ~60°C (-4°F ~140°F) -10°C ~60°C (14°F ~140°F) -20°C ~60°C (-4°F ~140°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use Standby use	Initial Charging Current less than 250 A Voltage 2.42-2.50V Temperature compensation:-5mV/°C Voltage 2.25-2.30V Temperature compensation:-3mV/°C

Constant current discharge (25°C , 77 °F)

Unit:A

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)												
Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h
1.60V	A	3203	2110	1701	1140	600	350.0	257.0	200.0	165.0	117.0	105.0
	W	5509	3756	3040	2043	1080	641	476.7	375.0	312.7	223.5	202.1
1.70V	A	3102	1904	1602	1090	564	334.0	250.0	195.0	162.0	114.0	103.0
	W	5522	3543	2988	2039	1063	642	482.5	377.9	314.8	222.3	201.7
1.75V	A	3001	1703	1401	1020	546	326.0	244.0	192.0	160.0	113.0	101.0
	W	5462	3229	2665	1956	1054	630	473.8	374.4	312.6	221.5	199.2
1.80V	A	2892	1605	1302	940	528	318.0	238.0	189.0	156.0	110.0	100.0
	W	5408	3085	2500	1815	1024	621	467.7	372.0	307.3	217.3	198.1
1.85V	A	2795	1504	1202	840	510	310.0	230.0	184.0	152.0	107.0	95.0
	W	5283	2903	2332	1638	1000	611	455.4	365.2	302.3	213.6	191.1

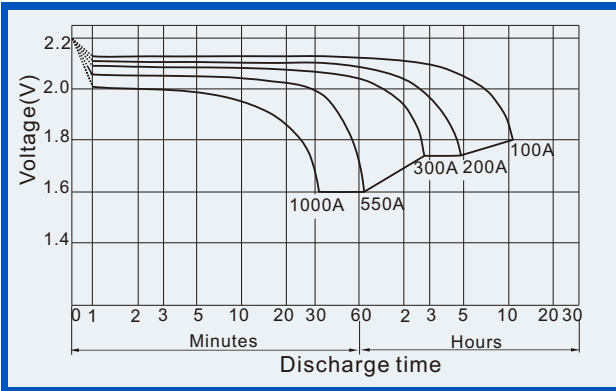
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

Constant power discharge (25°C , 77 °F)

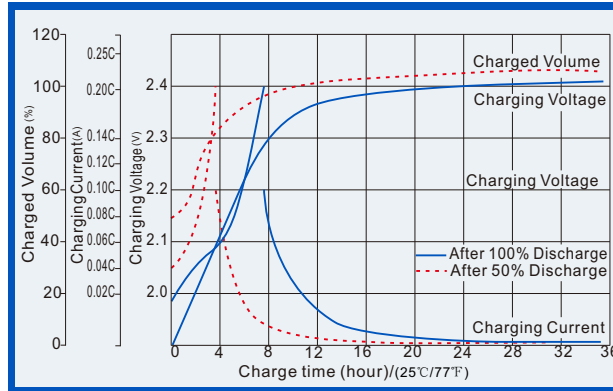
Unit:watts

GEL Battery (GEL technology) Maintenance-free Sealed Lead Gel Rechargeable Battery

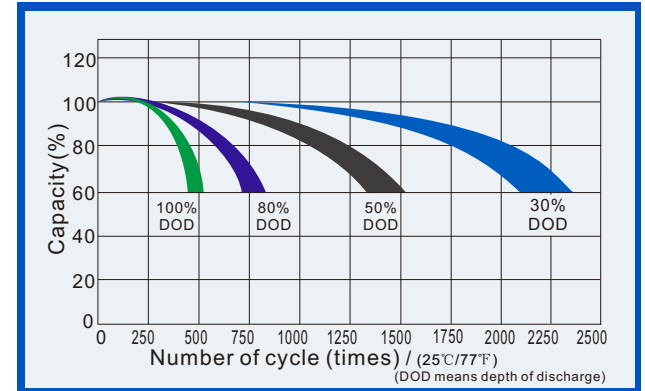
Discharge characteristics (25°C, 77°F)



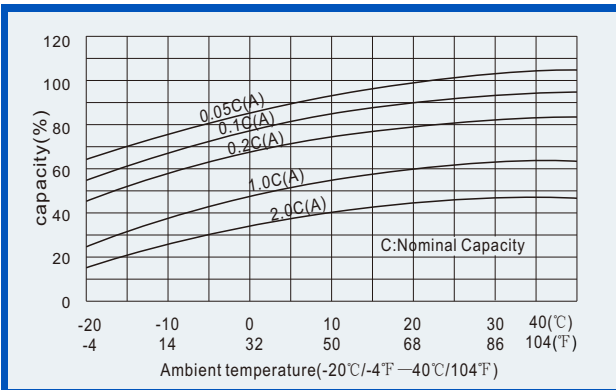
Charge characteristics (25°C, 77°F)



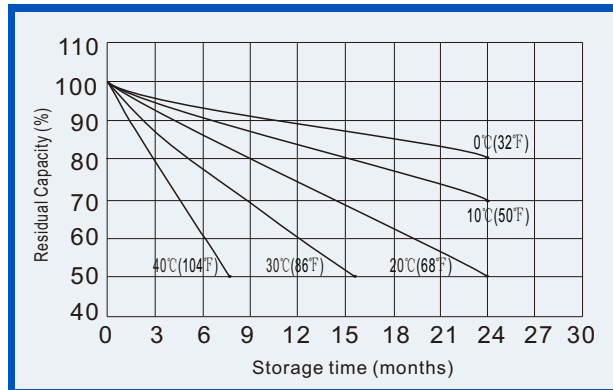
Life characteristics of Cyclic Use (25°C, 77°F)



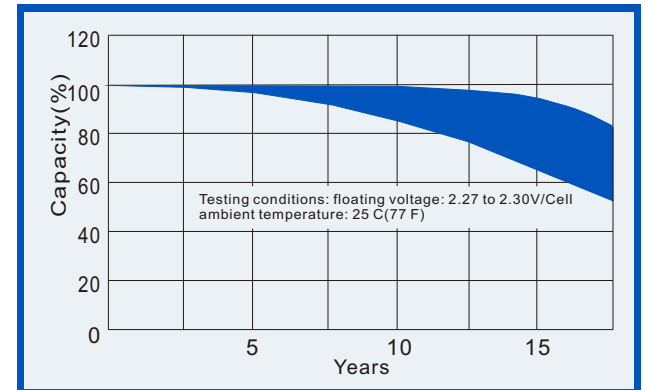
Effect of Temperature on capacity



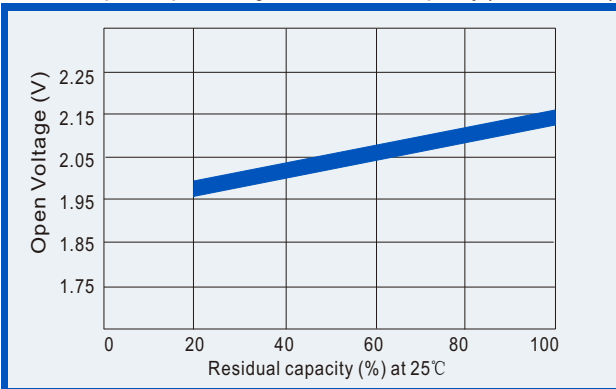
Self-discharge characteristics



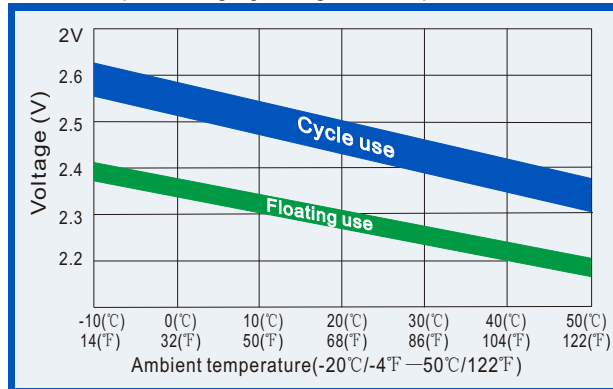
Life Characteristics of float service (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

