

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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MPG2-1500 (2V1500Ah)

Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		1500 Ah
Dimensions (±2mm)	Total Height (Include top cover)	382 mm (15.0 inches)
	Height	344 mm (13.5 inches)
	Length	401 mm (15.8 inches)
	Width	351 mm (13.8 inches)
Weight Approx (±3%)		103.0 Kg (227.1lbs)

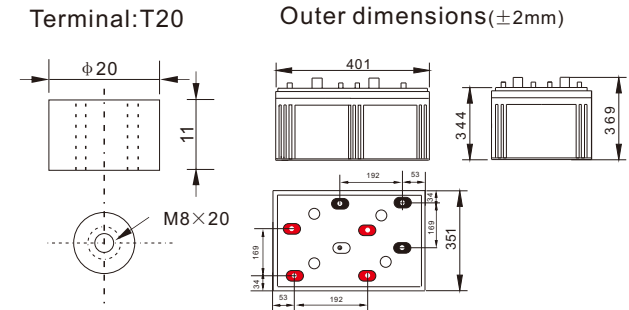
Battery picture and construction



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



(Total height 382mm includes the top cover)

Characteristics

Capacity 25°C(77°F)	10 hour rate(150A,1.8V)	1500Ah
	5 hour rate(240A,1.75V)	1200Ah
	1 hour rate(900A,1.6V)	900Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 0.22mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	102%
	25°C (77°F)	100%
	0°C (32°F)	85%
	-15°C (5°F)	65%
Remaining capacity Self-Discharge At 25°C(77°F)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	82%
	Capacity after 12 month storage	64%
Terminal type	T20	
Max. Discharge current 25°C/(77°F)	9000A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge	-20°C ~60°C (-4°F ~140°F)
	Charge	-10°C ~60°C (14°F ~140°F)
	Storage	-20°C ~60°C (-4°F ~140°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 375A Voltage 2.42-2.50V Temperature compensation:-5mV/°C
	Standby use	Voltage 2.25-2.30V Temperature compensation:-3mV/°C

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

Unit:A

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

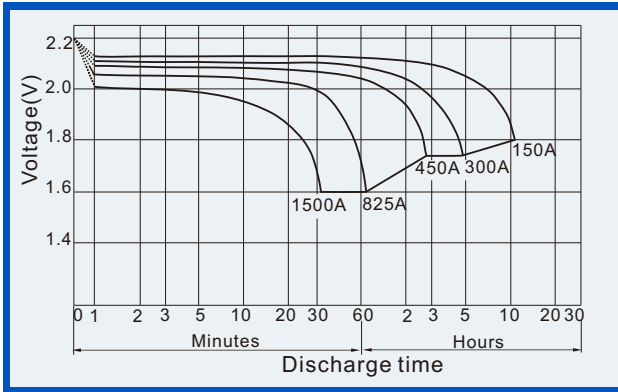
Unit:watts

Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	A	4805	3165	2552	1710	900	525.0	385.5	300.0	247.5	175.5	85
	W	8264	5634	4560	3064	1620	961	715.1	562.5	469.0	335.2	165
1.70V	A	4653	2856	2403	1635	846	501.0	375.0	292.5	243.0	171.0	82.5
	W	8282	5315	4482	3059	1595	962	723.8	566.9	472.1	333.5	161.3
1.75V	A	4502	2555	2102	1530	819	489.0	366.0	288.0	240.0	169.5	82.5
	W	8193	4843	3997	2935	1581	945	710.8	561.6	469.0	332.2	162.5
1.80V	A	4338	2408	1953	1410	792	477.0	357.0	283.5	234.0	165.0	81.0
	W	8112	4627	3750	2723	1536	931	701.5	557.9	461.0	325.9	160.8
1.85V	A	4193	2256	1803	1260	765	465.0	345.0	276.0	228.0	160.5	76.5
	W	7924	4354	3498	2457	1499	916	683.1	547.9	453.5	320.4	154.5

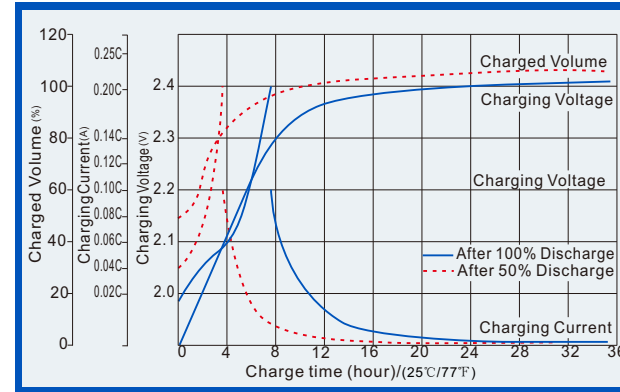
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

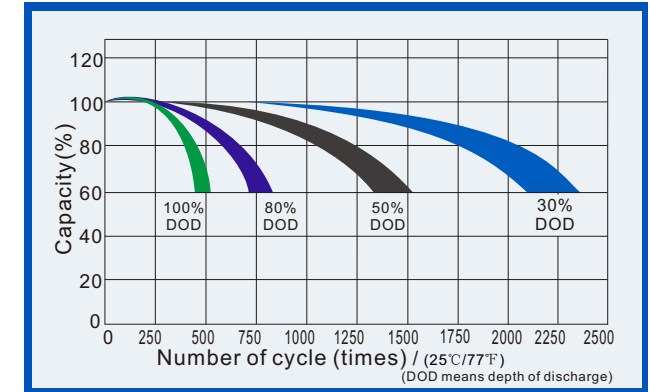
Discharge characteristics (25°C, 77°F)



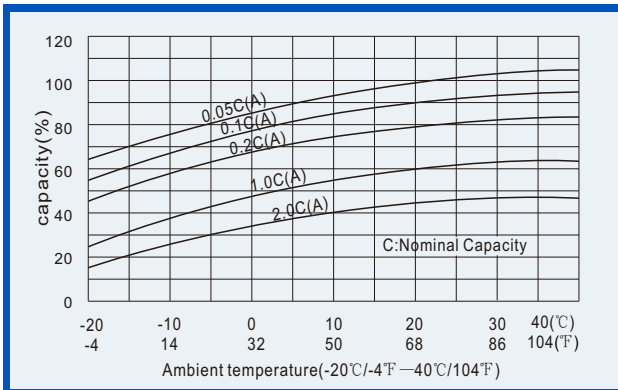
Charge characteristics (25°C, 77°F)



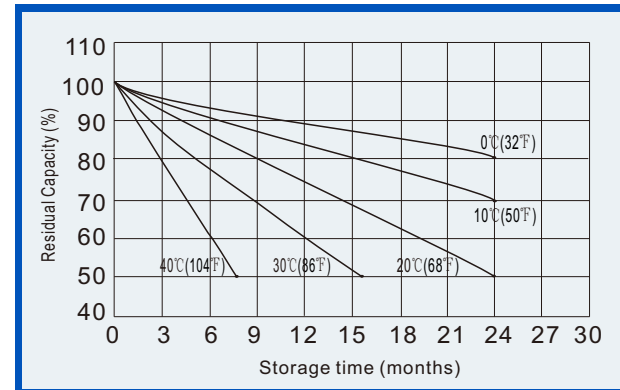
Life characteristics of Cyclic Use (25°C, 77°F)



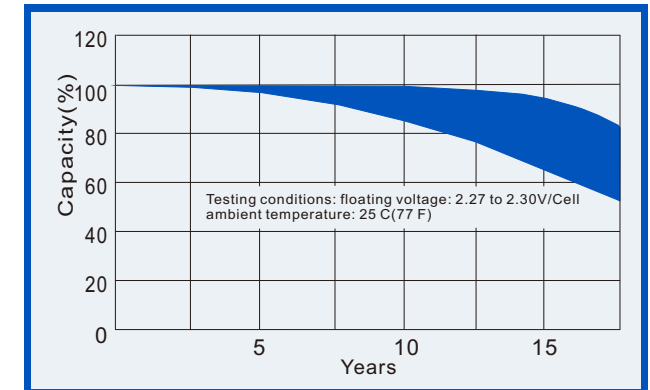
Effect of Temperature on capacity



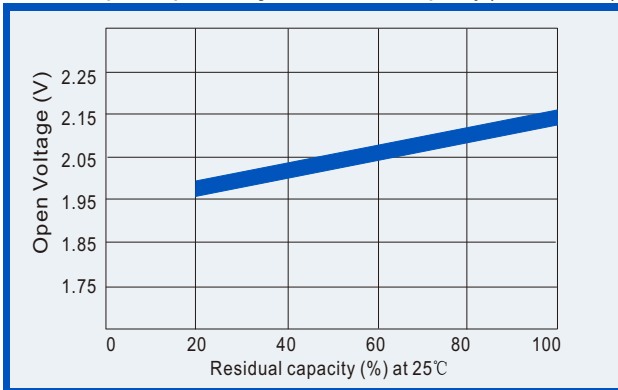
Self-discharge characteristics



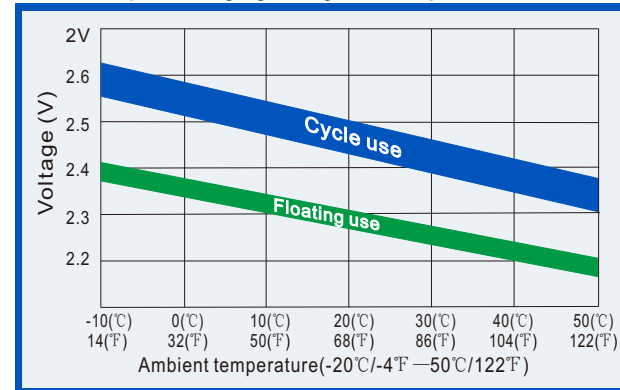
Life Characteristics of float service (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

