

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 12V GEL battery is 15years, the deep discharge cycles increased over 50% as compared with the AGM battery.



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MPG12-120 (12V120Ah)

Specifications

Nominal Voltage		12V
Rated capacity (20 hour rate)		120 Ah
Dimensions (±2mm)	Total Height	233 mm (9.17 inches)
	Height	209 mm (8.23 inches)
	Length	407 mm (16.0 inches)
	Width	174mm (6.85 inches)
Weight Approx (±3%)		34.0 Kg (75.0 lbs)

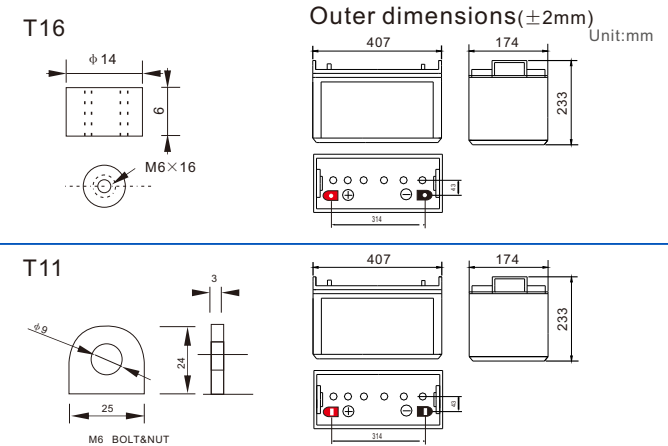
Battery picture and construction



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)	20 hour rate(6.0A,10.5V)	120Ah
	10 hour rate(11.2A,10.5V)	112Ah
	5 hour rate(19.2A,10.5V)	96Ah
	1 hour rate(72A,9.6V)	72Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 5.0mΩ
Capacity affected by Temperature (20hour rate)	40°C (104°F)	102%
	25°C (77°F)	100%
	0°C (32°F)	85%
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	T16 (Option T11)	
Max. Discharge current 25°C/(77°F)	930A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge	-20°C ~55°C (-4°F ~131°F)
	Charge	-10°C ~55°C (14°F ~131°F)
	Storage	-20°C ~55°C (-4°F ~131°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 30A Voltage 14.5-15.0V Temperature compensation:-20mV/°C
	Standby use	Voltage 13.5-13.8V Temperature compensation:-30mV/°C

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

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

Unit:A

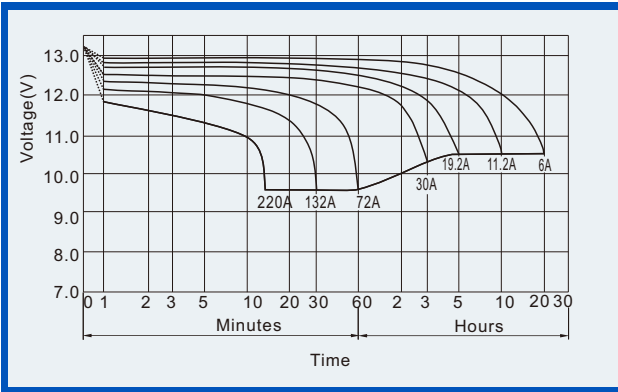
Unit:watts

Constant Current(Amp) and Constant Power(Watt) Discharge Table											
Time		10min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	240.0	132.0	72.0	42.0	31.0	24.0	19.9	13.7	11.4	6.2
	W	2544	1406	770	454	337	264	218.4	151.8	126.5	69.9
10.20V	A	228.0	133.2	67.7	40.1	30.0	23.4	19.4	13.6	11.3	6.1
	W	2508	1472	751	449	339	266	221	154	128	69
10.50V	A	216.0	122.4	66.0	39.1	29.3	23.0	19.2	13.3	11.2	6.0
	W	2419	1377	746	446	335	265	221	153	128	69
10.80V	A	204.0	112.8	63.6	38.2	28.6	22.7	18.7	13.1	11.0	5.9
	W	2315	1286	728	441	331	264	218	152	129	68
11.10V	A	192.0	100.8	60.0	37.2	27.6	22.0	18.2	12.7	10.5	5.7
	W	2208	1164	696	435	324	260	215	150	124	67

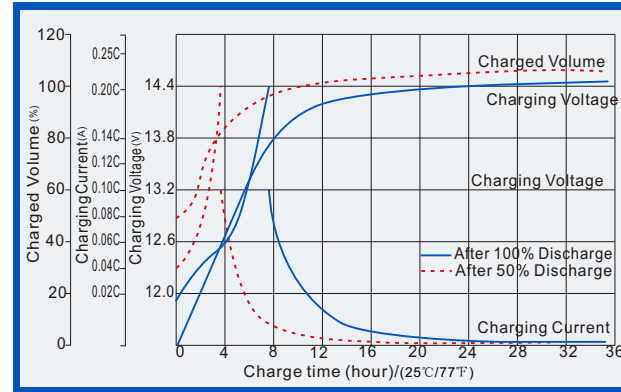
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

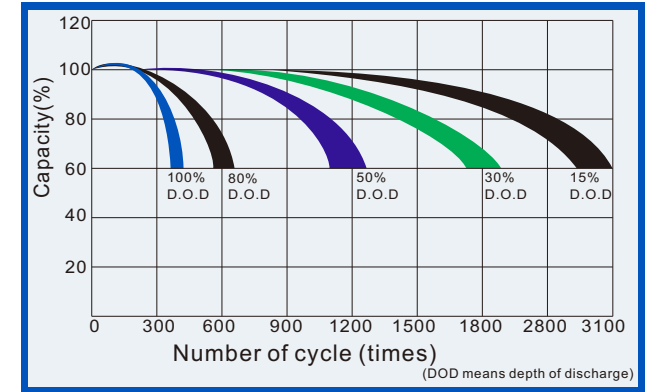
Discharge characteristics (25°C, 77°F)



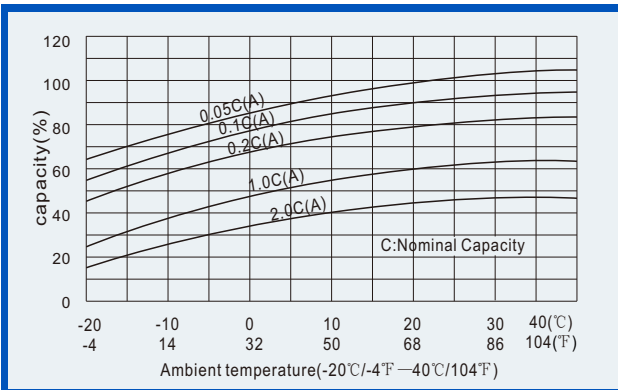
Charge characteristics (25°C, 77°F)



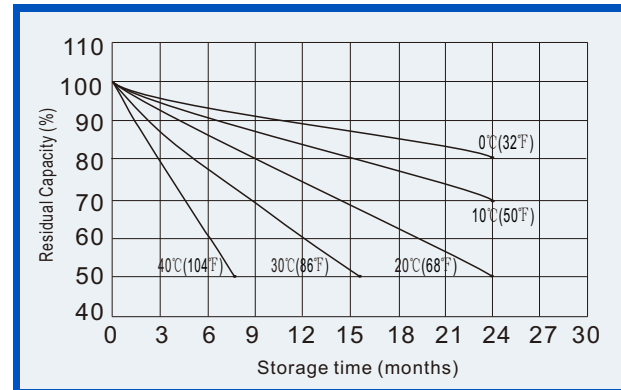
Life characteristics of Cyclic Use (25°C, 77°F)



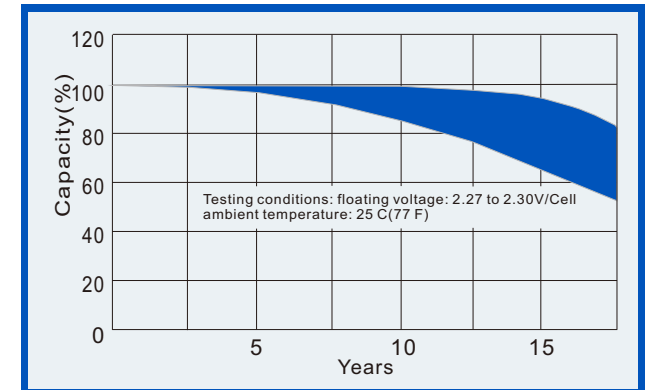
Effect of Temperature on capacity



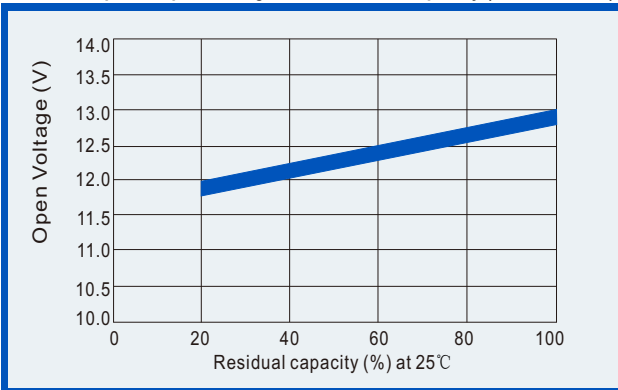
Self-discharge characteristics



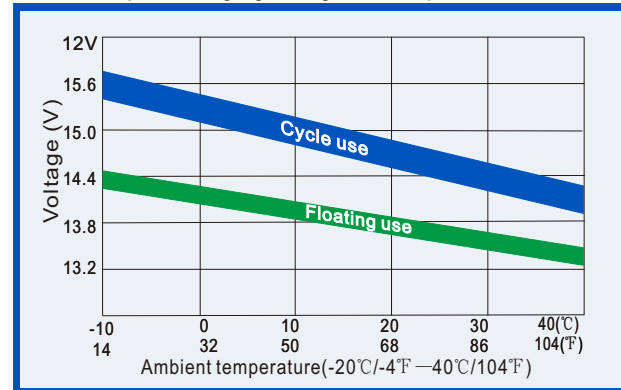
Life Characteristics of float service (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

