

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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MPG12-200 (12V200Ah)

Specifications

Nominal Voltage		12V	
Rated capacity (20 hour rate)		200 Ah	
Dimensions (±2mm)	Total Height	T19	221 mm (8.69 inches)
		T12	237 mm (9.29 inches)
	Height	216 mm (8.50 inches)	
	Length	522 mm (20.6 inches)	
	Width	240 mm (9.45 inches)	
Weight Approx (±3%)		64.0Kg (140.9 lbs)	

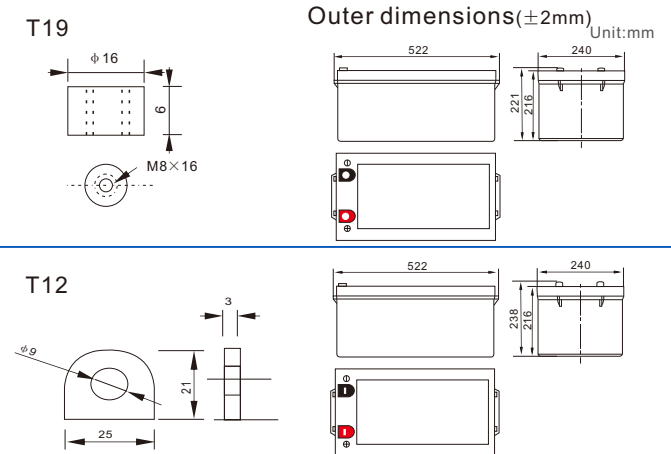
Battery picture and construction



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(10 A, 10.5V)	200Ah
	10 hour rate(18.6A, 10.5V)	186Ah
	5 hour rate(32A, 10.5V)	160Ah
	1 hour rate(120 A, 9.6V)	120Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 4.5mΩ
Capacity affected by Temperature (20hour 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	T19 (Option T12)	
Max. Discharge current 25°C/(77°F)	1600A (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 50A Voltage 14.50-15.00V Temperature compensation:-20mV/°C
	Standby use	Voltage 13.50-13.80V Temperature compensation:-30mV/°C

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

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

Unit:A

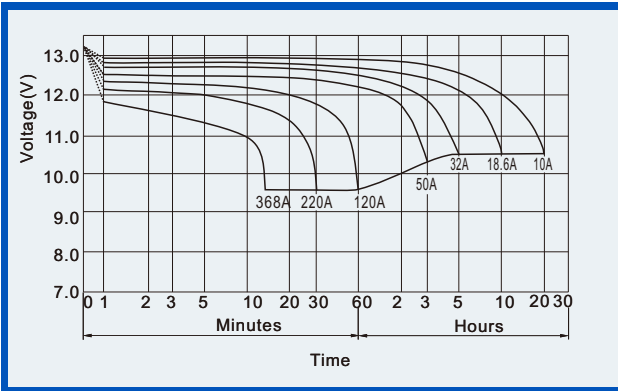
Unit:watts

Constant Current(Amp) and Constant Power(Watt) Discharge Table											
Time		10min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	400.0	220.0	120.0	70.0	51.6	40.0	33.1	22.8	19.0	10.4
	W	4240	2343	1284	756	562	440	363.9	253.1	210.9	116.5
10.20V	A	380.0	222.0	112.8	66.8	50.0	39.0	32.4	22.6	18.8	10.1
	W	4180	2453	1252	748	565	443	368	257	213	115
10.50V	A	360.0	204.0	110.0	65.2	48.8	38.4	32.0	22.2	18.6	10.0
	W	4032	2295	1243	743	559	442	368	255	214	115
10.80V	A	340.0	188.0	106.0	63.6	47.6	37.8	31.2	21.8	18.4	9.8
	W	3859	2143	1214	735	552	440	363	254	214	114
11.10V	A	320.0	168.0	100.0	62.0	46.0	36.7	30.4	21.2	17.5	9.5
	W	3680	1940	1160	725	541	433	359	250	207	112

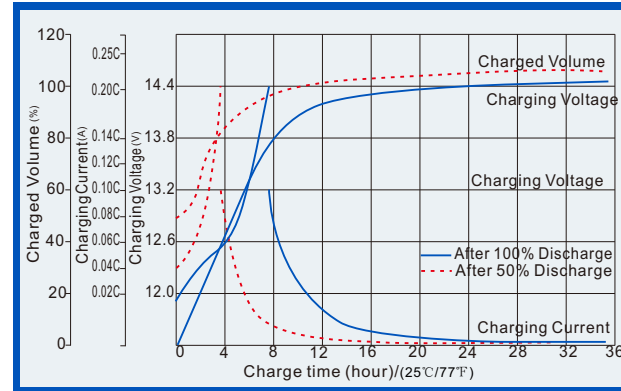
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

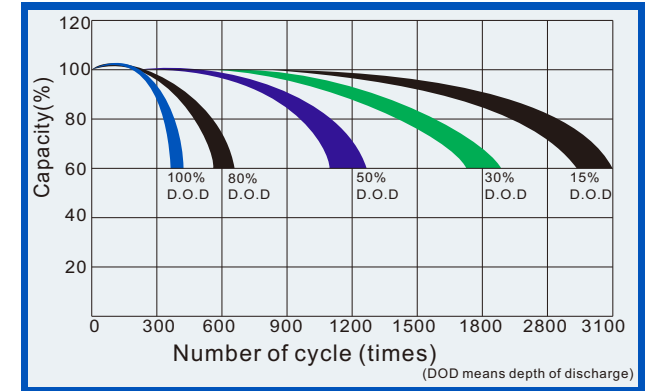
Discharge characteristics (25°C, 77°F)



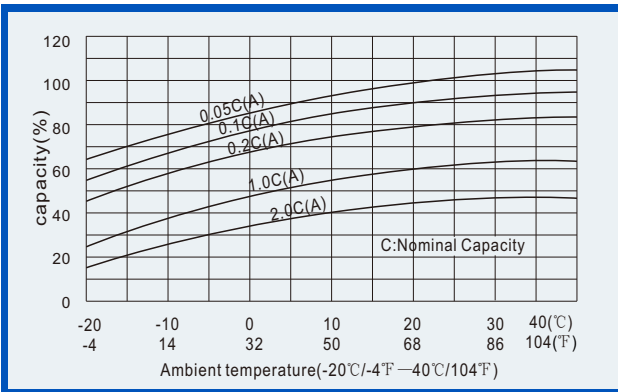
Charge characteristics (25°C, 77°F)



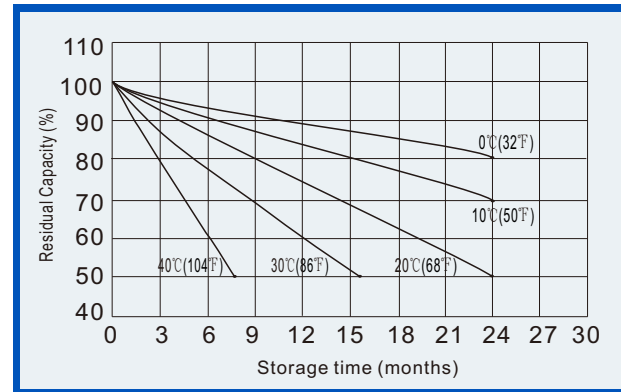
Life characteristics of Cyclic Use (25°C, 77°F)



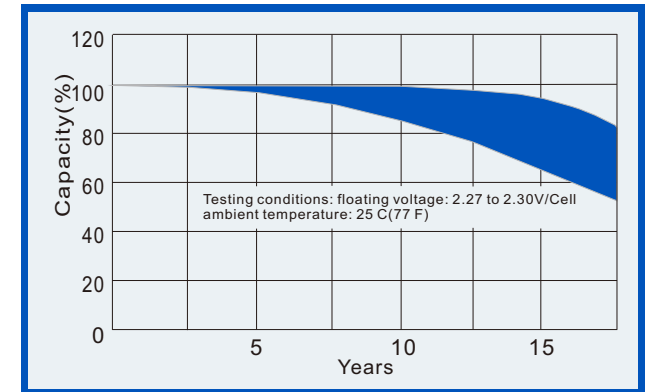
Effect of Temperature on capacity



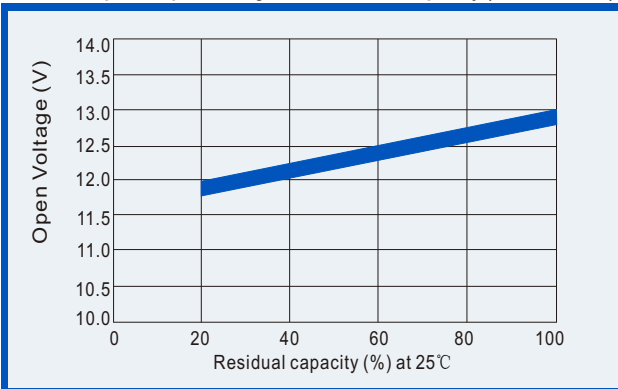
Self-discharge characteristics



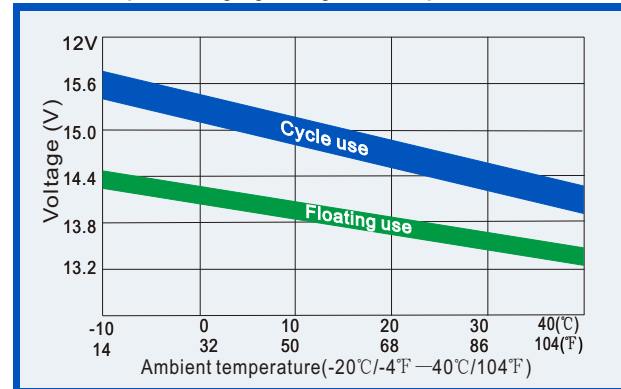
Life Characteristics of float service (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

