

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, folkliift, 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.



Maxton Power Tech Co., Ltd
www.maxtonpower.com
info@maxtonpower.com

MPG12-40 (12V40Ah)

Specifications

Nominal Voltage		12V	
Rated capacity (20 hour rate)		40Ah	
Dimensions (±2mm)	Total Height	T16	171 mm (6.73 inches)
		T9	171 mm (6.73 inches)
	Height	171 mm (6.73 inches)	
	Length	197 mm (7.73 inches)	
	Width	166 mm (6.54 inches)	
Weight Approx (±3%)		13.5Kg (29.8 lbs)	

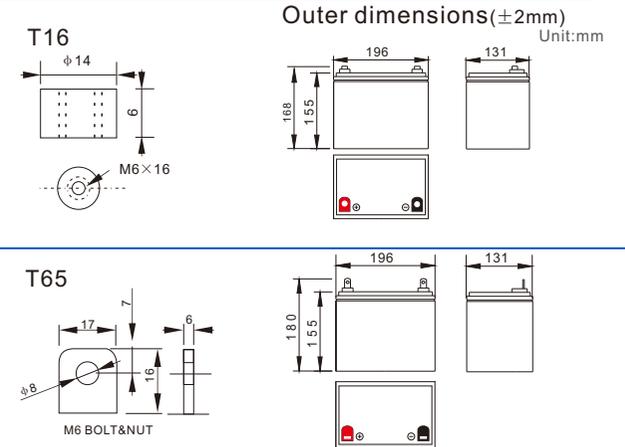
Battery picture and construction



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(2.0 A, 10.5V)	40Ah
	10 hour rate(3.7A, 10.5V)	37Ah
	5 hour rate(6.4A, 10.5V)	32Ah
	1 hour rate(24A, 9.6V)	24Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 9.0mΩ
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 T9)	
Max. Discharge current 25°C/(77°F)	400A (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 10 A Voltage 14.4-15.0V 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

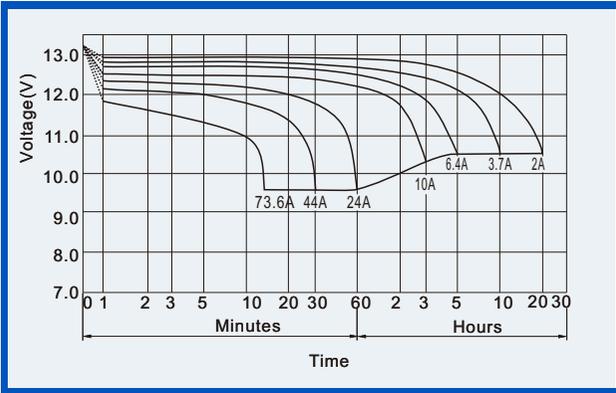
Constant Current(Amp) and Constant Power(Watt) Discharge Table

Time		Unit:watts									
		10min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	80.0	44.0	24.0	14.0	10.3	8.0	6.6	4.6	3.8	2.1
	W	848	469	257	151	112	88	72.8	50.6	42.2	23.3
10.20V	A	76.0	44.4	22.6	13.4	10.0	7.8	6.5	4.5	3.8	2.0
	W	836	491	250	150	113	89	74	51	43	23
10.50V	A	72.0	40.8	22.0	13.0	9.8	7.7	6.4	4.4	3.7	2.0
	W	806	459	249	149	112	88	74	51	43	23
10.80V	A	68.0	37.6	21.2	12.7	9.5	7.6	6.2	4.4	3.7	2.0
	W	772	429	243	147	110	88	73	51	43	23
11.10V	A	64.0	33.6	20.0	12.4	9.2	7.3	6.1	4.2	3.5	1.9
	W	736	388	232	145	108	87	72	50	41	22

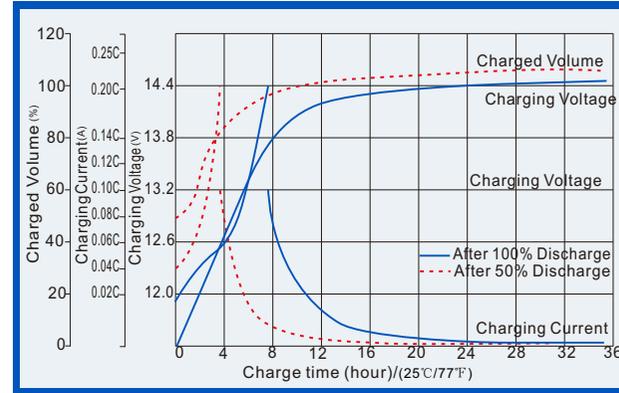
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

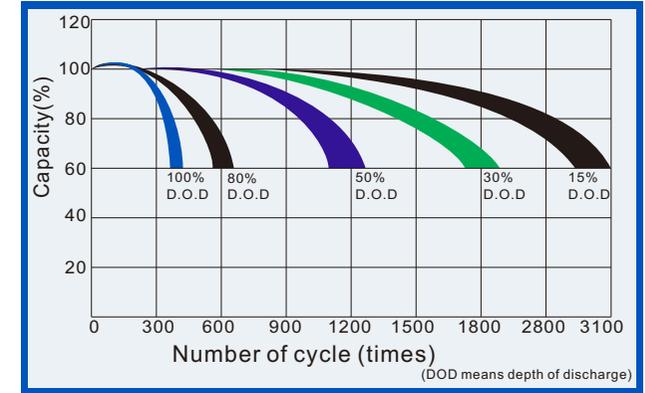
Discharge characteristics (25°C, 77°F)



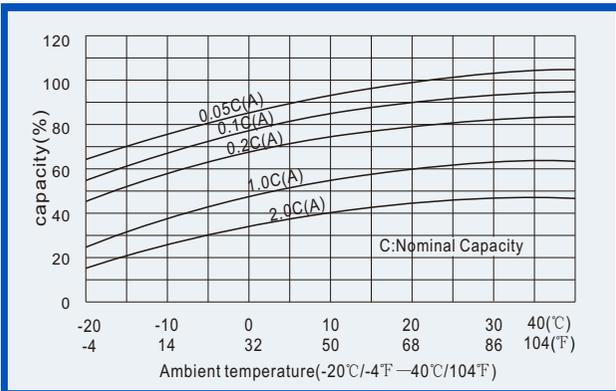
Charge characteristics (25°C, 77°F)



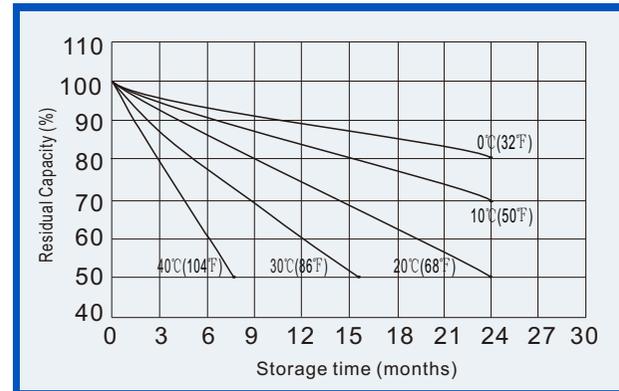
Life characteristics of Cyclic Use (25°C, 77°F)



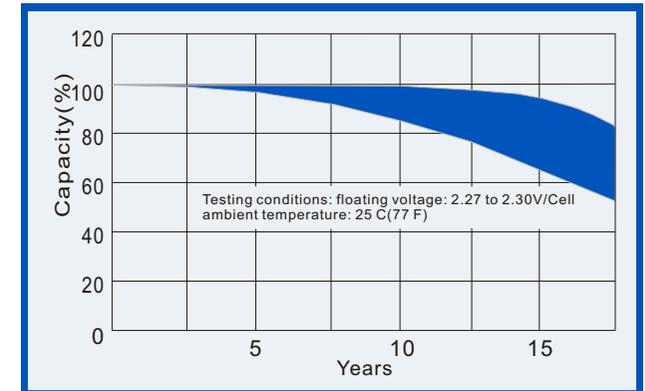
Effect of Temperature on capacity



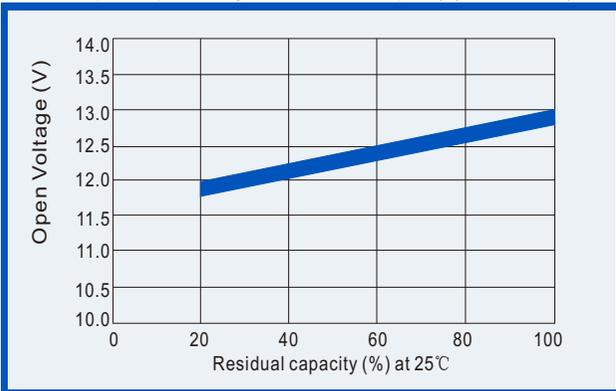
Self-discharge characteristics



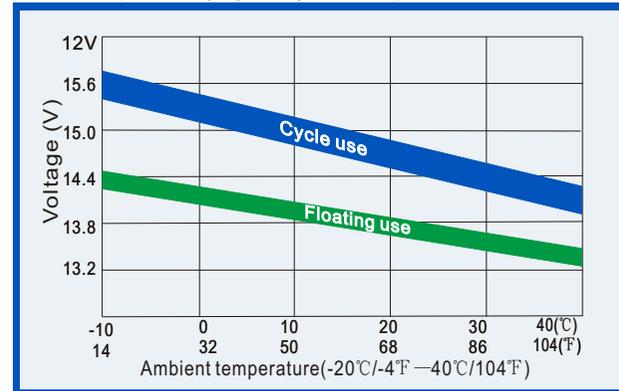
Life Characteristics of float service (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

