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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MPG2-400 (2V400Ah)

Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		400 Ah
Dimensions (±2mm)	Total Height (Include top cover)	367 mm (14.4 inches)
	Height	331 mm (13.0 inches)
	Length	211 mm (8.31 inches)
	Width	176 mm (6.92 inches)
Weight Approx (±3%)		27.0 Kg (59.5 lbs)

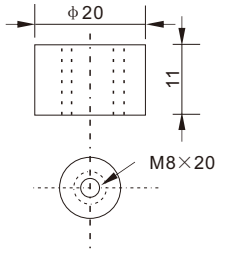
Battery picture and construction

Battery Construction

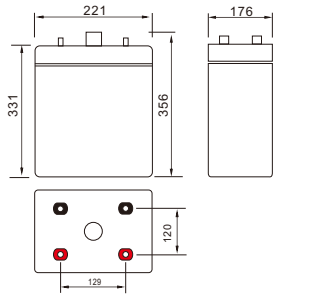
Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Gelled acid	PVC	Rubber	Copper

Outer dimension and terminal

Terminal:T20



Outer dimensions(±2mm)
Unit:mm



(Total height 367mm includes the top cover)

Characteristics

Capacity 25℃(77℉)	10 hour rate(40A,1.8V) 5 hour rate(64A,1.75V) 1 hour rate(240 A,1.6V)	400Ah 320Ah 240Ah
Internal Resistance	Full charged battery at 25℃(77℉)	Approx 0.60mΩ
Capacity affected by Temperature (10hour rate)	40℃ (104℉) 25℃ (77℉) 0℃ (32℉) -15℃ (5℉)	102% 100% 85% 65%
Remaining capaicty Self-Discharge At 25℃(77℉)	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℃/(77℉)		2800A (5Seconds)
Nominal operating temperature		25℃ ±5℃(77℉ ±9℉)
Operating Temperature Range	Discharge Charge Storage	-20℃～60℃ (-4℉～140℉) -10℃～60℃ (14℉～140℉) -20℃～60℃ (-4℉～140℉)
Charge methods (constant Voltage) At 25℃(77℉)	Cycle use	Initial Charging Current less than 100 A Voltage 2.42-2.50V Temperature compensation:-5mV/℃
	Standby use	Voltage 2.25-2.30V Temperature compensation:-3mV/℃

Constant current discharge (25℃ , 77 ℉)

Unit:A

Constant power discharge (25℃ , 77 ℉)

Unit:watts

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25℃(77℉)

Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	A	1281	844	680	456	240	140.0	102.8	80.0	66.0	46.8	42.0	23
	W	2204	1502	1216	817	432	256	190.7	150.0	125.1	89.4	80.9	44
1.70V	A	1241	762	641	436	226	133.6	100.0	78.0	64.8	45.6	41.2	22.0
	W	2209	1417	1195	816	425	257	193.0	151.2	125.9	88.9	80.7	43.0
1.75V	A	1200	681	560	408	218	130.4	97.6	76.8	64.0	45.2	40.4	22.0
	W	2185	1292	1066	783	422	252	189.5	149.8	125.1	88.6	79.7	43.3
1.80V	A	1157	642	521	376	211	127.2	95.2	75.6	62.4	44.0	40.0	21.6
	W	2163	1234	1000	726	410	248	187.1	148.8	122.9	86.9	79.2	42.9
1.85V	A	1118	602	481	336	204	124.0	92.0	73.6	60.8	42.8	38.0	20.4
	W	2113	1161	933	655	400	244	182.2	146.1	120.9	85.4	76.5	41.2

(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 Rechageable Battery

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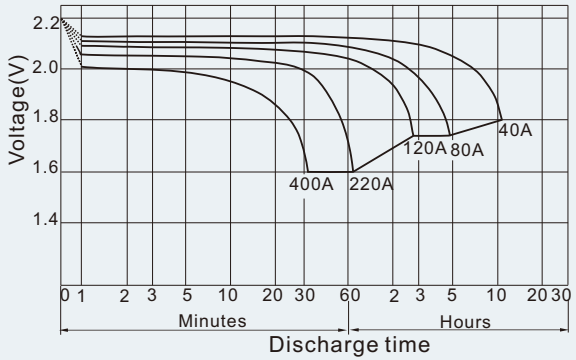
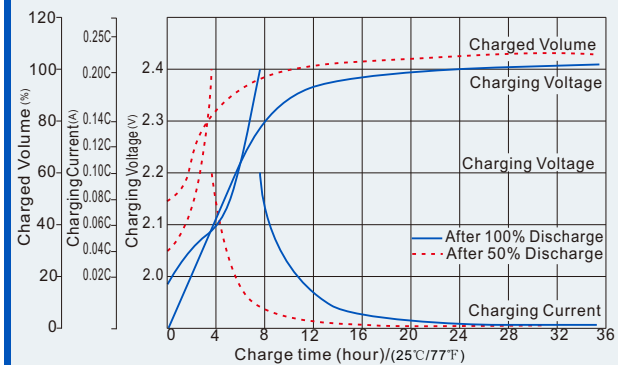
MPG2-400 (2V400Ah)

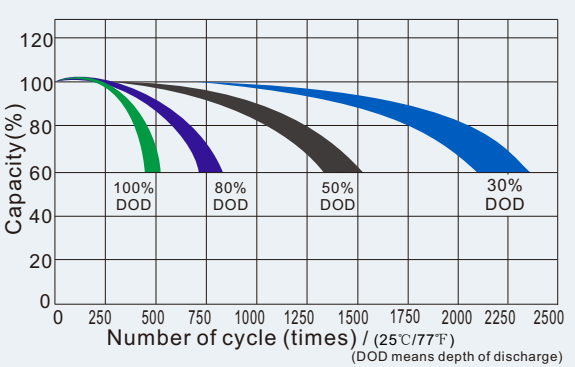
Discharge characteristics (25℃,77℉)



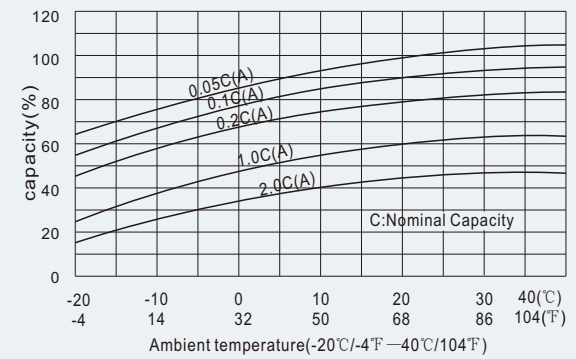
Charge characteristics (25℃,77℉)



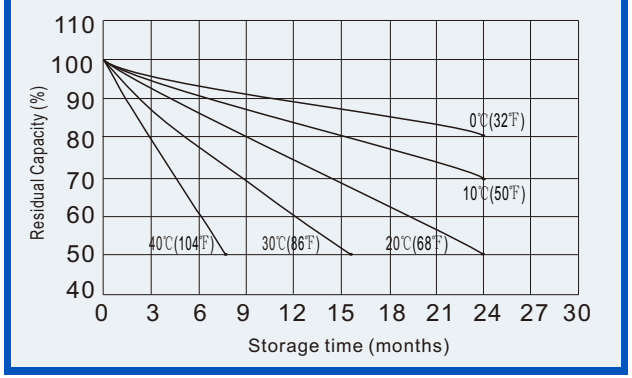
Life characteristics of Cyclic Use (25℃,77℉)



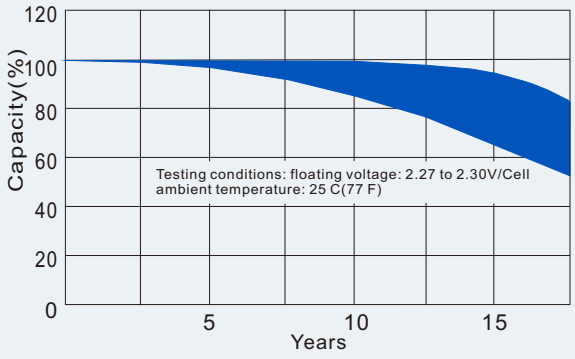
Effect of Temperature on capacity



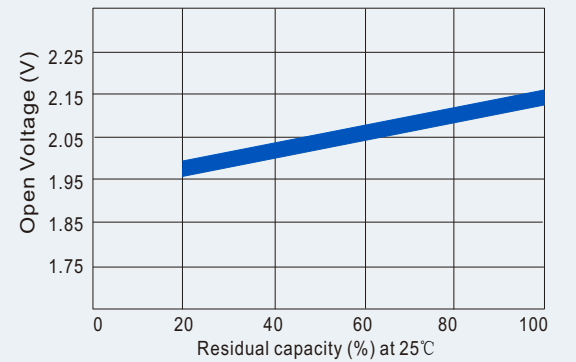
Self-discharge characteristics



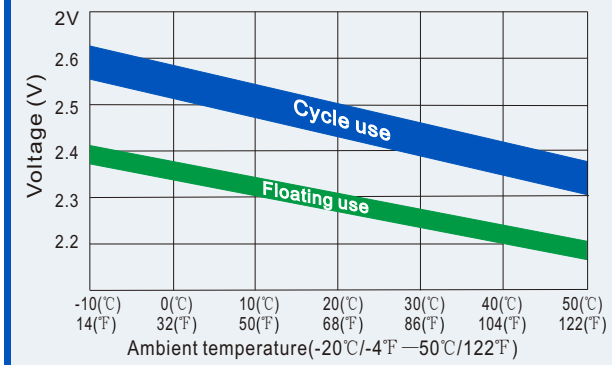
Life Characteristics of float service (25℃,77℉)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life