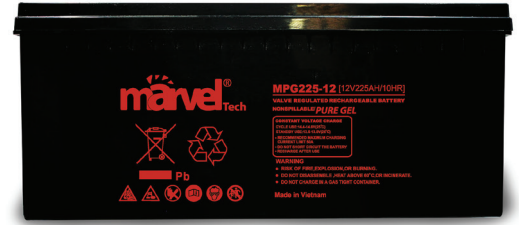


# PURE GEL BATTERY

## MPG225-12

GEL series has a long service life ,Use of high purity lead and gel electrolytes.Suitable for solar & wind system, CATV, marine,deep discharge UPS, and telecommunication, etc. As with all Marvel batteries, all are rechargeable,highly efficient,leak proof and maintenance free



### Specification

<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Capacity</b>	225Ah@ 10hr-rate to 1.80V per cell @25°C (77°F)
<b>Weight</b>	Approx. 63.5kg(139.99 lbs)
<b>Maximum Discharge Current</b>	1600A(5sec)
<b>Internal Resistance</b>	Approx. 4.0 mΩ
<b>Operating Temperature Range</b>	Discharge: -15°C~50°C ( 5°F~122°F) Charge: -15°C~40°C ( 5°F~104°F) Storage: -15°C~40°C ( 5°F~104°F)
<b>Nominal Operating Temperature Range</b>	25°C±3°C (77°F±5°F)
<b>Float Charging Voltage</b>	13.5 to 13.8 VDC/unit Average at 25°C (77°F)
<b>Recommended Maximum Charging Current Limit</b>	50 A
<b>Equalization and Cycle Service</b>	14.4 to14.8VDC/unitAverageat 25°C (77°F)
<b>Self Discharge</b>	Marvel Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using . For higher temperatures the time interval will be shorter.
<b>Terminal</b>	Thread lead alloy recessed terminal to accept M8 bolt
<b>Container Material</b>	ABS(UL 94-HB) & Flammability resistance of (UL 94-V0) can be available upon request.



MH 27774



IT1548HL06061801

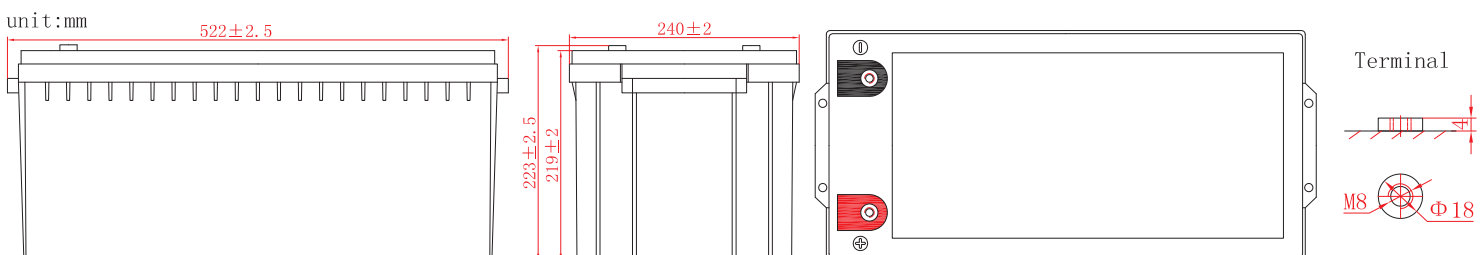


Marvel is also certified by ISO 9001 and ISO 14001.

### Dimensions :

Unit: mm

Overall Height (H)	Containerheight (h)	Length(L)	Width (W)
223±2.5	219±2	522±2.5	240±2



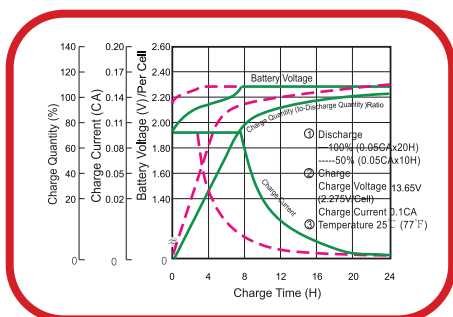
## Constant Current Discharge Characteristics Unit : A(25°C/77° F)

F.V/Time	30min	45min	1h	3h	5h	8h	10h	20h
1.60V	211	155	123	53.6	36.2	24.8	23.1	12.40
1.67V	207	152	121	53.2	36.0	24.6	23.0	12.21
1.70V	204	150	119	52.8	35.8	24.6	22.9	12.06
1.75V	197	146	116	51.8	35.2	24.3	22.8	11.92
1.80V	188	141	111	50.0	34.3	23.9	22.5	11.79
1.85V	176	134	103	45.9	31.8	22.8	21.6	11.19

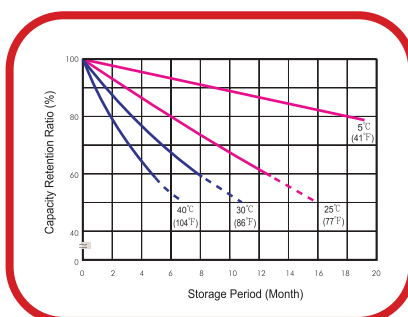
## Constant Power Discharge Characteristics Unit : : W/cell (25°C/77° F)

F.V/Time	30min	45min	1h	3h	5h	8h	10h	20h
1.60V	348	260	209	100.6	70.6	48.3	40.4	21.5
1.67V	339	253	206	99.6	70.5	48.1	40.3	21.4
1.70V	329	247	204	98.9	70.2	48.0	40.2	21.3
1.75V	310	235	199	97.0	69.4	47.6	39.8	21.1
1.80V	287	219	194	93.6	67.5	46.7	39.2	20.9
1.85V	257	198	183	86.9	63.4	45.2	38.0	20.3

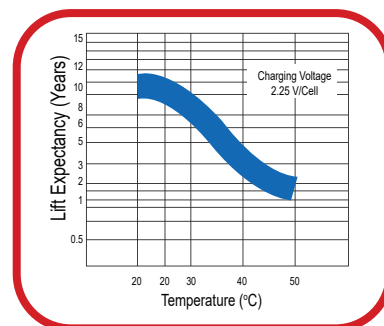
**Battery Voltage and Charge Time for Standby Use**



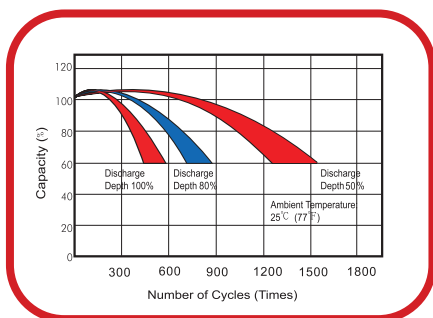
**Capacity Retention Characteristic**



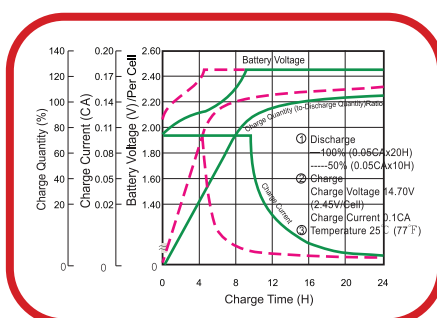
**Trickle(or Float) Design Life**



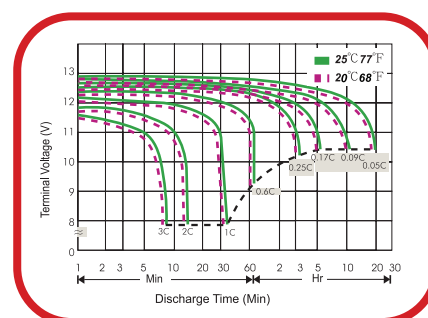
**Cycle Service Life**



**Battery Voltage and Charge Time for Cycle Use**



**Terminal Voltage (V) and Discharge Time**



### Charging Procedures

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C (77°F)	2.45	2.40~2.50	0.25C
Standby	25°C (77°F)	2.275	2.25~2.30	

### Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.65	1.60
Discharge Current(A)	0.2C(A)	0.2C(A)<0.5C	0.5C(A)<1.0C	(A)>1.0C

### Effect of temperature on capacity (10HR)

Temperature	Dependency of Capacity (10HR)
40 °C	102%
25 °C	100%
0 °C	85%
-15 °C	65%

### Self-discharge Characteristics

Charge Voltage(V/Cell)	Charge Voltage(V/Cell)
3 Months	91%
6 Months	82%
12 Months	64%