

## General features for MPPV Series battery (OPzV)

- \* Tubular positive plate; separator with the combined application of porous rubber and porous PVC, separator is with a high porosity & good corrosion resistance. Gelled electrolyte technology.
- \* Computer designed lead, calcium tin alloy grid for high power density.
- \* Long service life, maintenance-free during the whole service life.
- \* Alloy (no antimony) and internal oxygen recombination ensure low gassing.
- \* High cyclic ability, no internal short circuits in the GEL structure.
- \* Easy to move and handle, easy using cable connectors or copper connectors in the battery connection..



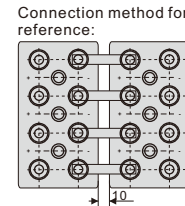
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**MPPV2-3000 (2V3000Ah)**

## Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		3000 Ah
Dimensions (±3mm)	Total Height (Include terminal)	807mm (31.7inches)
	Height	772mm (30.4inches)
	Length	576mm (22.7inches)
	Width	212mm (8.35inches)
Approx weight (±5%)		215.0Kg (474.1lbs)

## Battery picture and construction



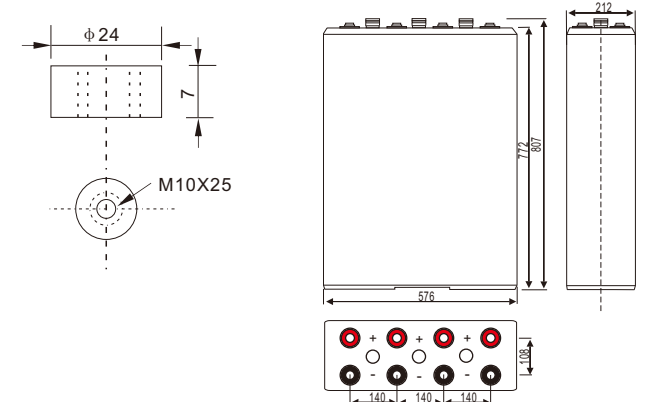
### Battery Construction

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: TP

Outer dimensions(±3mm) Unit:mm



## Characteristics

Capacity 25°C(77°F)	10 hour rate(300A, 1.8V)	3000Ah
	3 hour rate(795A, 1.75V)	2385Ah
	1 hour rate(1735A, 1.60V)	1735Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 0.15 mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	103%
	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	94%
	Capacity after 6 month storage	88%
	Capacity after 12 month storage	75%
Terminal type	TP (copper)	
Max. Discharge current 25°C/(77°F)	12000A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge	-15°C ~50°C (5°F ~122°F)
	Charge	0°C ~45°C (32°F ~113°F)
	Storage	-15°C ~45°C (5°F ~113°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 600 A Voltage 2.35-2.45V Temperature compensation:-3mV/°C
	Standby use	Voltage 2.25-2.30V Temperature compensation:-3mV/°C

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

Unit:A

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

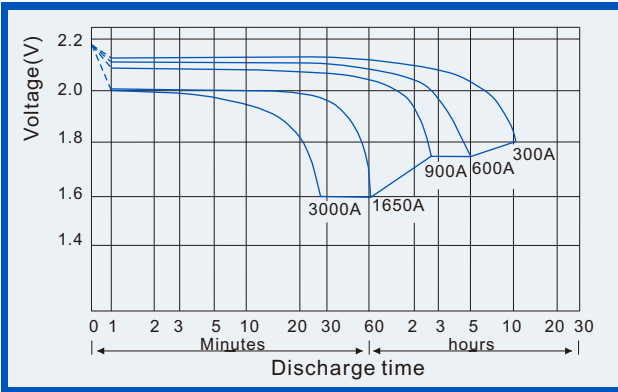
Unit:watts

### Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

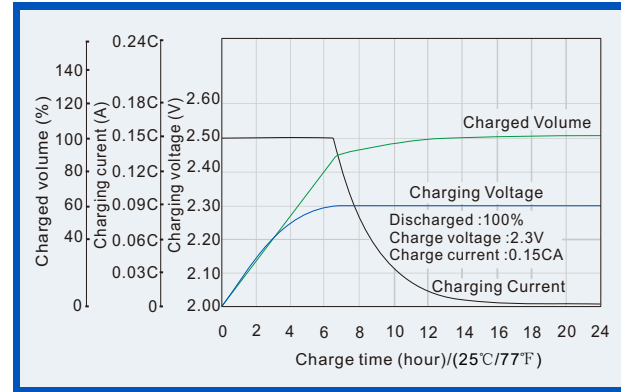
Time		30min	1h	2h	3h	5h	6h	8h	10h	20h	24h	48h	100h
1.65V	A	2610.0	1725.0	1130.0	885.0	610.0	493.5	400.0	350.0	180.5	149.5	80.0	39.4
	W	5475	3525	2525	1770	1145	1095	905	675	340	306	203	105
1.70V	A	2535.0	1650.0	1065.0	835.0	575.0	466.5	383.5	330.0	176.5	149.0	79.5	39.4
	W	5145	3420	2475	1710	1125	1060	870	655	337	303	202	105
1.75V	A	2400.0	1575.0	1005.0	795.0	545.0	443.5	366.5	315.0	171.0	148.5	78.5	39.0
	W	4705	3330	2410	1655	1110	1030	840	630	333	300	202	104
1.80V	A	2310.0	1500.0	950.0	750.0	510.0	423.5	353.5	300.0	162.0	148.0	78.0	38.8
	W	4185	3120	2355	1590	1080	990	810	615	330	297	201	104
1.85V	A	2175.0	1425.0	905.0	705.0	490.0	403.5	333.0	283.5	153.0	141.0	77.5	38.7
	W	3630	3045	2235	1510	1035	945	775	585	312	284	201	103

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

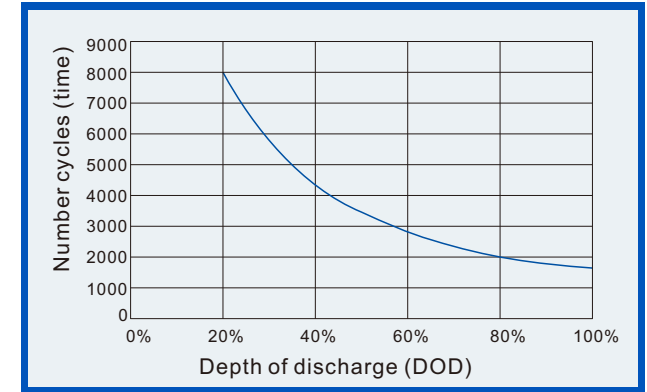
**Discharge characteristics (25°C, 77°F)**



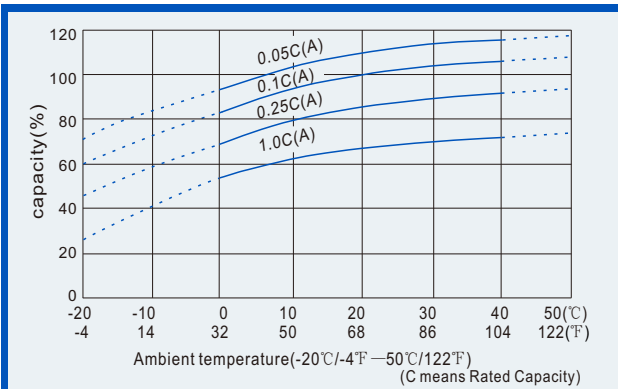
**Charge characteristics (25°C, 77°F)**



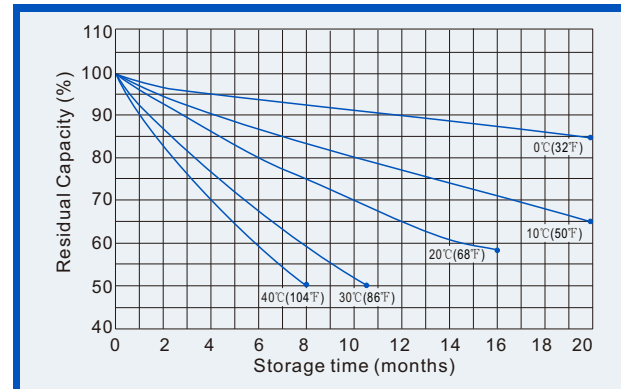
**Life characteristics of Cyclic Use (25°C, 77°F)**



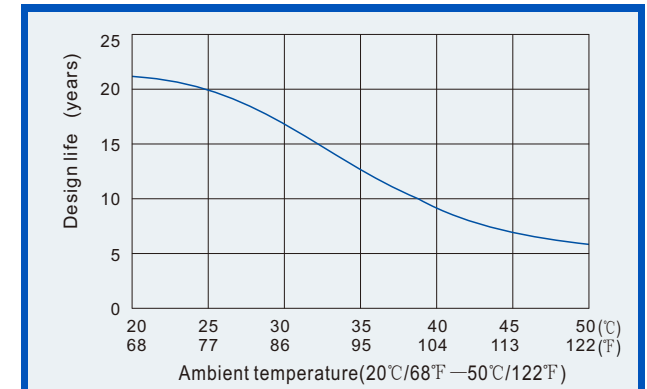
**Effect of Temperature on capacity**



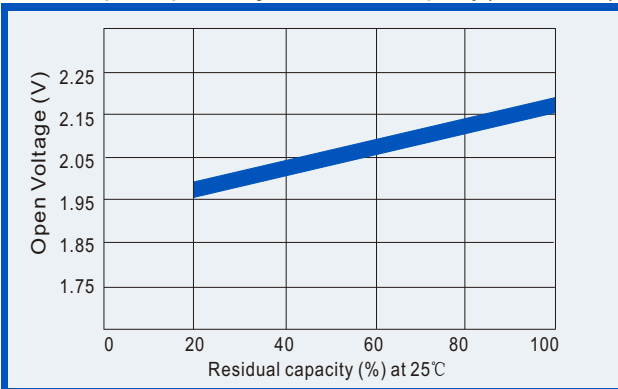
**Self-discharge characteristics (with full charging)**



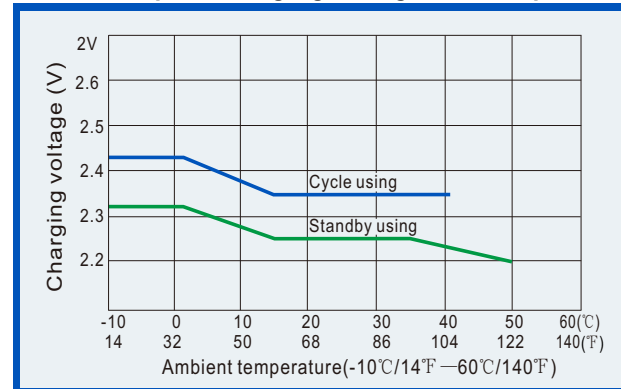
**Relationships for design life and temperature**



**Relationships for open voltage and remained capacity (for reference)**



**Relationship for charging voltage and temperature**



**Effect of temperature on capacity**

