

## 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..



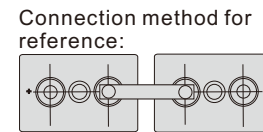
**Maxton Power Tech Co., Ltd**  
www.maxtonpower.com  
info@maxtonpower.com

**MPPV2-200 (2V200Ah)**

## Specifications

|                               |                                    |                    |
|-------------------------------|------------------------------------|--------------------|
| Nominal Voltage               |                                    | 2 V                |
| Rated capacity (10 hour rate) |                                    | 200 Ah             |
| Dimensions<br>(±3mm)          | Total Height<br>(Include terminal) | 390mm (15.3inches) |
|                               | Height                             | 355mm (13.9inches) |
|                               | Length                             | 103mm (4.05inches) |
|                               | Width                              | 206mm (8.11inches) |
| Approx weight (±5%)           |                                    | 17.0Kg (37.5lbs)   |

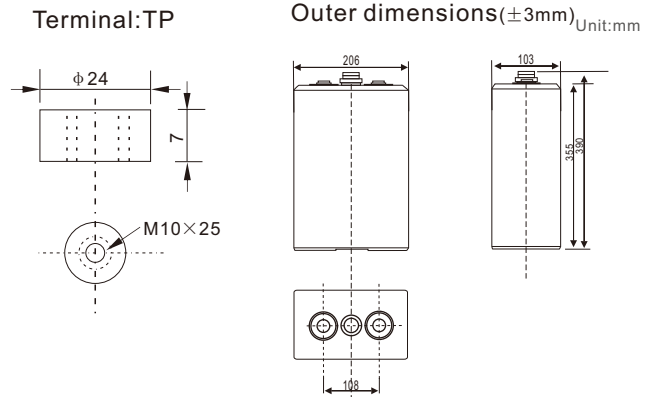
## Battery picture and construction



### 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<br>25°C(77°F)                          | 10 hour rate(20A, 1.8V)<br>3 hour rate(53A, 1.75V)<br>1 hour rate(118A, 1.60V)                      | 200Ah<br>159Ah<br>118Ah   |
| Internal Resistance                             | Full charged battery at 25°C(77°F)  | Approx 1.1mΩ  |
| Capacity affected by Temperature (10hour rate)  | 40°C (104°F)<br>25°C (77°F)<br>0°C (32°F)<br>-15°C (5°F)  | 103%<br>100%<br>85%<br>65%  |
| Remaining capacity Self-Discharge At 25°C(77°F) | Capacity after 3 month storage<br>Capacity after 6 month storage<br>Capacity after 12 month storage | 94%<br>88%<br>75%   |
| Terminal type                                   | TP (copper)   |   |
| Max. Discharge current 25°C/(77°F)              | 1000A (5Seconds)  |   |
| Nominal operating temperature                   | 25°C ±5°C(77°F ±9°F)  |   |
| Operating Temperature Range                     | Discharge<br>Charge<br>Storage  | -15°C ~50°C (5°F ~122°F)<br>-10°C ~50°C (14°F ~122°F)<br>-15°C ~50°C (-4°F ~122°F)  |
| Charge methods (constant Voltage) At 25°C(77°F) | Cycle use<br>Standby use  | Initial Charging Current less than 50 A<br>Voltage 2.35-2.45V<br>Temperature compensation:-4mV/°C<br>Voltage 2.25-2.30V<br>Temperature compensation:-3mV/°C |

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

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

Unit:A

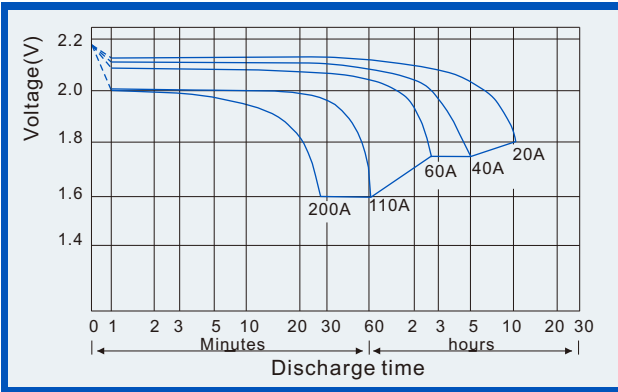
Unit:watts

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

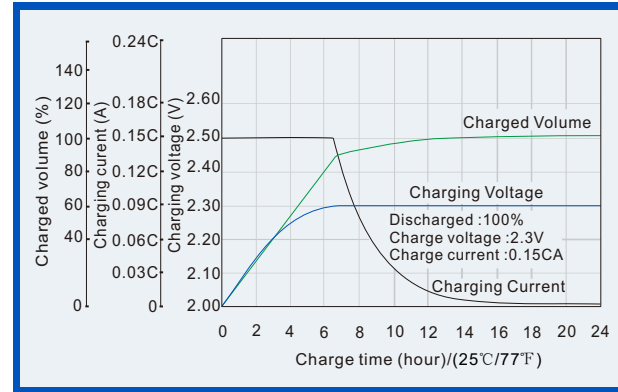
| Time  |   | 30min | 1h  | 2h  | 3h  | 5h | 6h | 8h | 10h | 20h | 24h | 48h | 100h |
|-------|---|-------|-----|-----|-----|----|----|----|-----|-----|-----|-----|------|
| 1.65V | A | 174   | 115 | 75  | 59  | 41 | 33 | 27 | 23  | 12  | 10  | 5   | 2.6  |
|       | W | 365   | 235 | 168 | 118 | 76 | 73 | 60 | 45  | 23  | 20  | 14  | 7.0  |
| 1.70V | A | 169   | 110 | 71  | 56  | 38 | 31 | 26 | 22  | 12  | 10  | 5   | 2.6  |
|       | W | 343   | 228 | 165 | 114 | 75 | 71 | 58 | 44  | 22  | 20  | 13  | 7.0  |
| 1.75V | A | 160   | 105 | 67  | 53  | 36 | 30 | 24 | 21  | 11  | 10  | 5   | 2.6  |
|       | W | 314   | 222 | 161 | 110 | 74 | 69 | 56 | 42  | 22  | 20  | 13  | 6.9  |
| 1.80V | A | 154   | 100 | 63  | 50  | 34 | 28 | 24 | 20  | 11  | 10  | 5   | 2.6  |
|       | W | 279   | 208 | 157 | 106 | 72 | 66 | 54 | 41  | 22  | 20  | 13  | 6.9  |
| 1.85V | A | 145   | 95  | 60  | 47  | 33 | 27 | 22 | 19  | 10  | 9   | 5   | 2.6  |
|       | W | 242   | 203 | 149 | 101 | 69 | 63 | 52 | 39  | 21  | 19  | 13  | 6.9  |

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

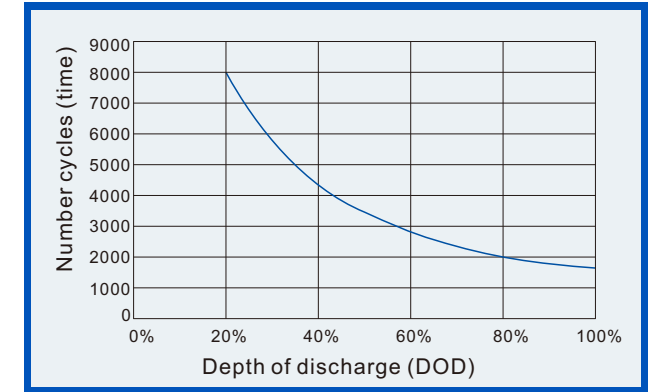
**Discharge characteristics (25°C, 77°F)**



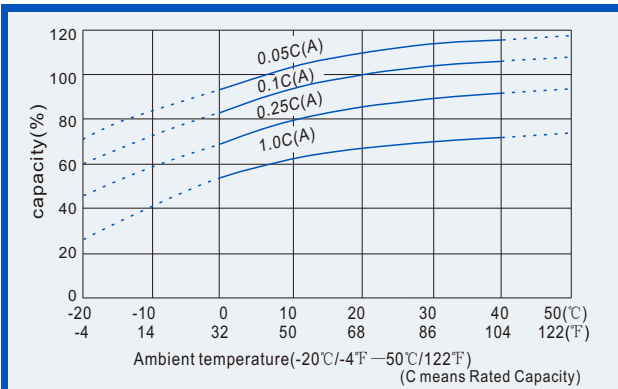
**Charge characteristics (25°C, 77°F)**



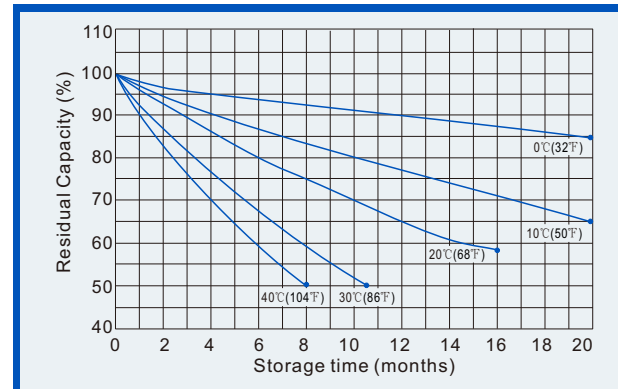
**Life characteristics of Cyclic Use (25°C, 77°F)**



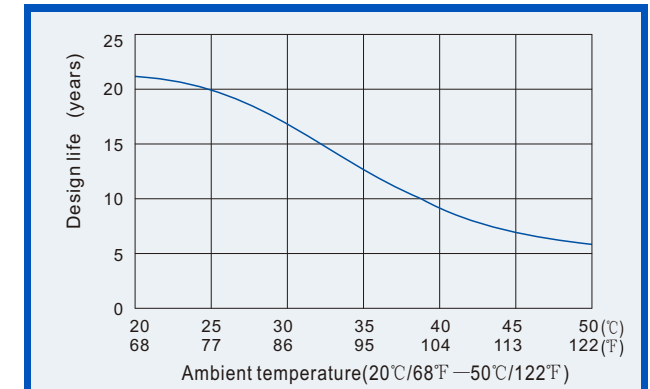
**Effect of Temperature on capacity**



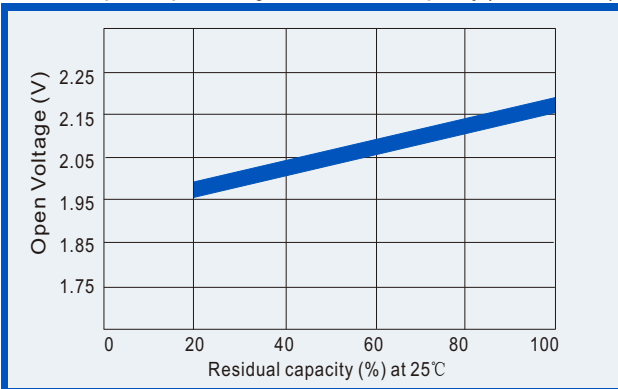
**Self-discharge characteristics (with full charging)**



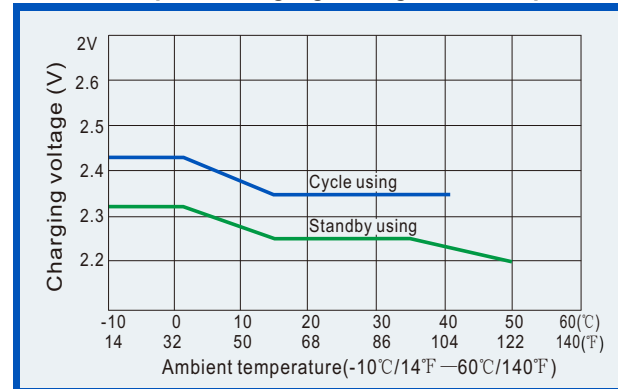
**Relationships for design life and temperature**



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



**Relationship for charging voltage and temperature**



**Effect of temperature on capacity**

