# CP6120 6V 12Ah (20hr) Sealed Lead Acid (SLA) Battery




The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

## Battery Construction

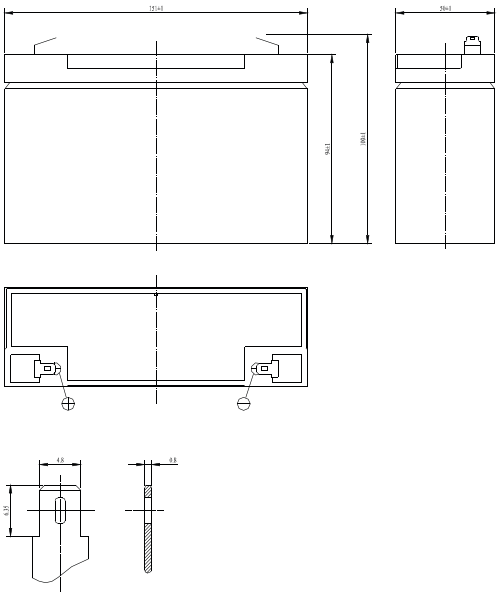
| Component | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator | Electrolyte |
|---|---|---|---|---|---|---|---|---|
| Raw material | Lead dioxide | Lead | ABS | ABS | Rubber | Copper | Fiberglass | Sulfuric acid |

## General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.
- Valve Regulated Lead Acid (VRLA) battery

## Dimensions and Weight

| | |
|---|---|
| Length(mm / inch) | 151 / 5.94 |
| Width(mm / inch) | 50 / 1.97 |
| Height(mm / inch) | 94 / 3.70 |
| Total Height(mm / inch) | 100 / 3.94 |
| Approx. Weight(Kg / lbs) | 1.85 / 4.08 |



terminal F1

## Performance Characteristics

| | |
|---|---|
| Nominal Voltage | 6V |
| Number of cell | 3 |
| Design Life | 5 years |
| Nominal Capacity 77ºF(25ºC) | |
| 20 hour rate (0.6A, 5.25V) | 12Ah |
| 10 hour rate (1.15A, 5.25V) | 11.5Ah |
| 5 hour rate (2.02A, 5.25V) | 10.1Ah |
| 1 hour rate (7.8A, 4.8V) | 7.8Ah |
| Internal Resistance | |
| Fully Charged battery 77ºF(25ºC) | ≤10mOhms |
| Self-Discharge | |
| 3% of capacity declined per month at 20ºC(average) | |
| Operating Temperature Range | |
| Discharge | -20~60ºC |
| Charge | -10~60ºC |
| Storage | -20~60ºC |
| Max. Discharge Current 77ºF(25ºC) | 180A(5s) |
| Short Circuit Current | 600A |
| Charge Methods: Constant Voltage Charge 77ºF(25ºC) | |
| Cycle use | 7.2-7.4V |
| Maximum charging current | 4.8A |
| Temperature compensation | -15mV/ºC |
| Standby use | 6.75-6.9V |
| Temperature compensation | -10mV/ºC |

## Discharge Constant Current (Amperes at 77ºF25ºC)

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 1h | 3h | 5h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 50.0 | 34.0 | 25.0 | 13.5 | 7.80 | 3.31 | 2.19 | 1.20 | 0.64 |
| 1.65V | 47.4 | 32.4 | 23.9 | 13.0 | 7.52 | 3.21 | 2.14 | 1.20 | 0.64 |
| 1.70V | 44.7 | 30.7 | 22.8 | 12.4 | 7.22 | 3.10 | 2.08 | 1.18 | 0.62 |
| 1.75V | 41.9 | 29.0 | 21.6 | 11.8 | 6.90 | 2.98 | 2.02 | 1.15 | 0.60 |
| 1.80V | 39.1 | 27.2 | 20.4 | 11.2 | 6.57 | 2.85 | 1.95 | 1.12 | 0.58 |

## Discharge Constant Power (Watts at 77ºF25ºC)

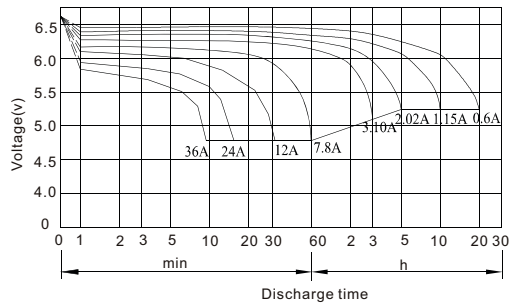
| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h | 2h | 3h | 5h |
|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 88.0 | 59.2 | 47.7 | 26.8 | 21 | 15.6 | 9.78 | 6.60 | 4.37 |
| 1.65V | 82.5 | 55.7 | 45.1 | 25.9 | 20 | 15.1 | 9.49 | 6.42 | 4.26 |
| 1.70V | 77.1 | 52.3 | 42.5 | 24.5 | 19 | 14.4 | 9.17 | 6.22 | 4.10 |
| 1.75V | 71.7 | 48.8 | 39.8 | 23.1 | 18 | 13.8 | 8.81 | 6.00 | 3.96 |
| 1.80V | 66.4 | 45.4 | 37.2 | 21.9 | 17 | 13.4 | 8.43 | 5.76 | 3.82 |

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

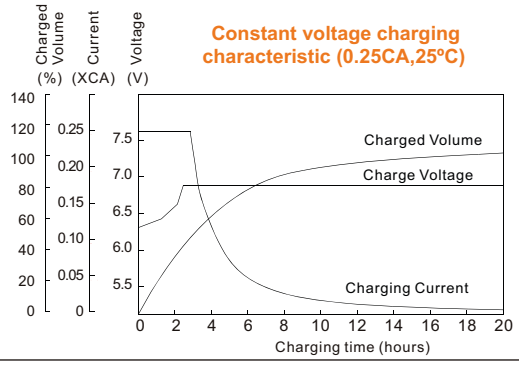
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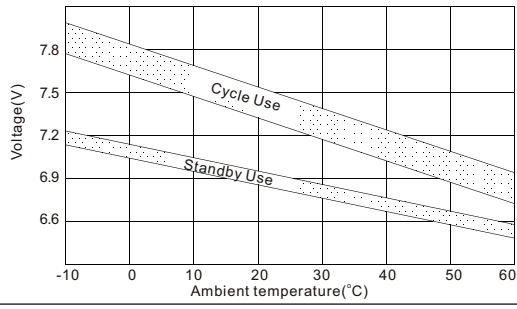
## Discharge characteristic (25ºC)



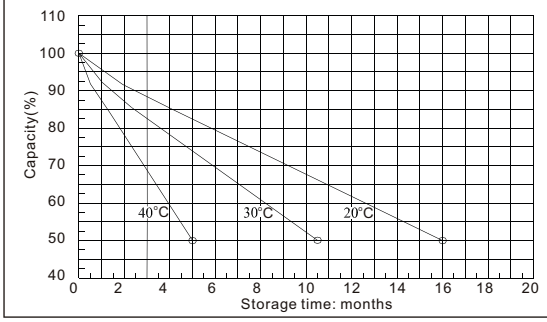

## Constant voltage charging characteristic (0.25CA,25ºC)



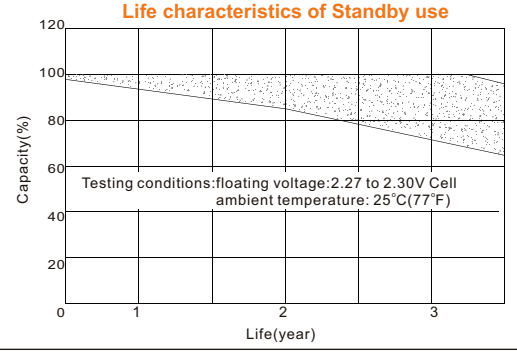

## Relationship between charging voltage and temperature



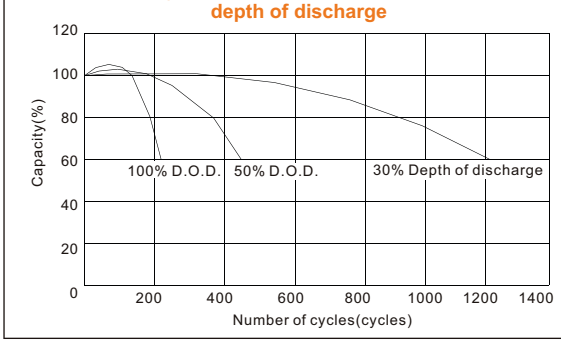

## Self-discharge characteristic



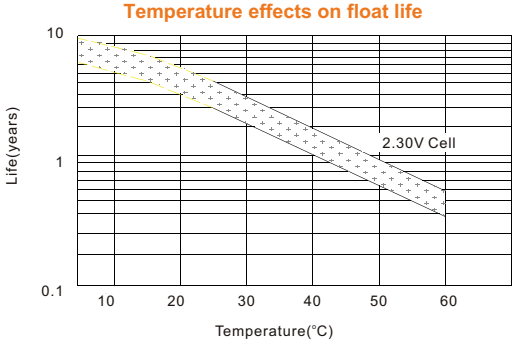

## Life characteristics of Standby use



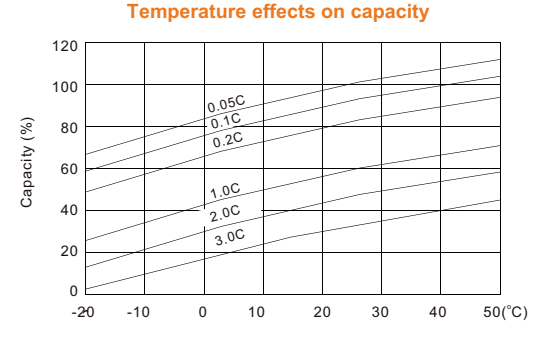

## Cycle service life in relation to depth of discharge




## Temperature effects on float life




## Temperature effects on capacity





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