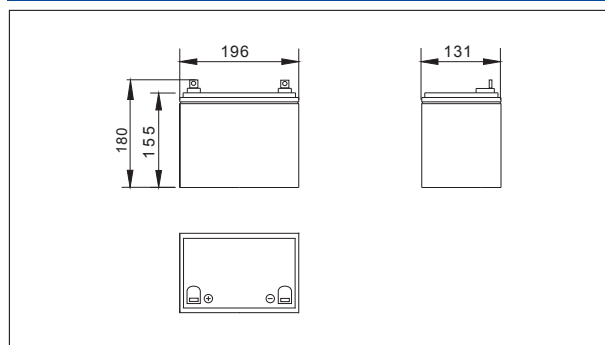


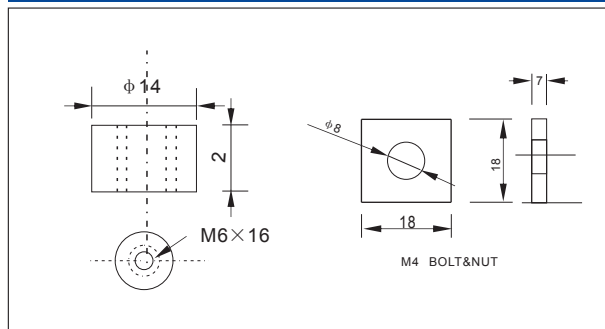
#### Specifications

|                               |              |                                               |
|-------------------------------|--------------|-----------------------------------------------|
| Nominal Voltage               |              | 12V                                           |
| Rated capacity (10 hour rate) |              | 33Ah                                          |
| Dimensions                    | Length       | 195±2mm(7.68inch)                             |
|                               | Width        | 130±2mm(5.12inch)                             |
|                               | Height       | 155±2mm6.10inch)                              |
|                               | Total Height | T14:167±2mm(6.57inch)<br>T6:180±2mm(7.09inch) |
| Approx. Weight                |              | 10kg(22.0lbs)±4%                              |

#### Outer dimensions (mm)



#### Terminal Type (mm)



#### Construction

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

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

| F.V/Time | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 71.9  | 55.4  | 33.2  | 20.4  | 12.1 | 8.68 | 6.93 | 5.92 | 4.07 | 3.36 | 1.78 |
| 9.90V    | 69.8  | 54.1  | 32.5  | 20.1  | 12.0 | 8.63 | 6.89 | 5.89 | 4.05 | 3.35 | 1.78 |
| 10.2V    | 66.9  | 52.1  | 31.5  | 19.6  | 11.9 | 8.57 | 6.85 | 5.85 | 4.02 | 3.34 | 1.77 |
| 10.5V    | 64.0  | 50.3  | 30.7  | 19.0  | 11.7 | 8.51 | 6.80 | 5.81 | 3.99 | 3.32 | 1.76 |
| 10.8V    | 60.4  | 47.7  | 29.6  | 18.4  | 11.4 | 8.26 | 6.59 | 5.63 | 3.87 | 3.30 | 1.75 |

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

| F.V/Time | 10min | 15min | 30min | 60min | 2h  | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|-----|------|------|------|------|------|------|
| 9.60V    | 777   | 609   | 372   | 232   | 140 | 102  | 81.5 | 70.0 | 48.4 | 40.1 | 21.4 |
| 9.90V    | 754   | 594   | 365   | 229   | 139 | 102  | 81.1 | 69.6 | 48.1 | 40.0 | 21.3 |
| 10.2V    | 723   | 572   | 354   | 223   | 138 | 101  | 80.5 | 69.1 | 47.8 | 39.9 | 21.3 |
| 10.5V    | 691   | 553   | 345   | 216   | 136 | 100  | 79.9 | 68.7 | 47.4 | 39.7 | 21.1 |
| 10.8V    | 653   | 524   | 332   | 209   | 132 | 97.1 | 77.5 | 66.6 | 46.0 | 39.4 | 21.0 |

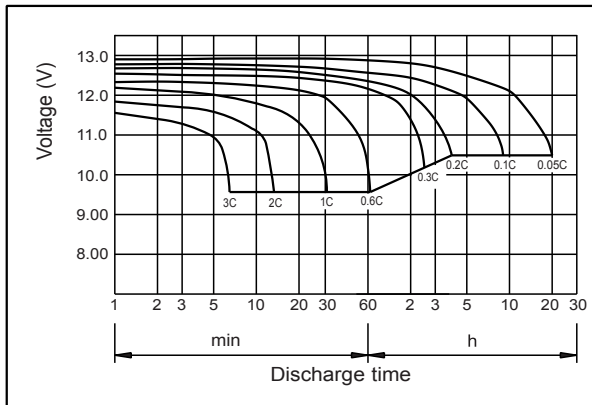
Note: The above characteristics data can be obtained within three charge or discharge cycles.



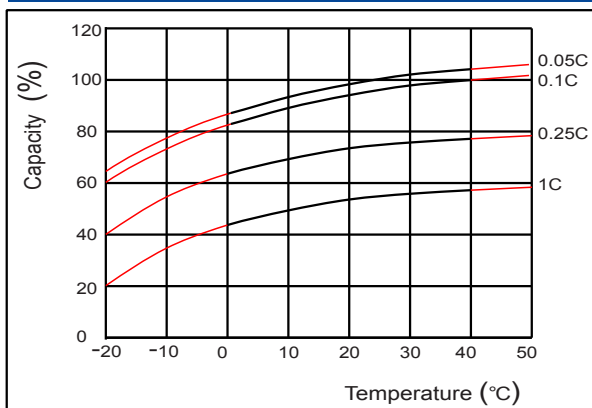
#### Characteristics

|                                          |             |                                                       |
|------------------------------------------|-------------|-------------------------------------------------------|
| Capacity (25°C)                          | 10HR(10.8V) | 33Ah                                                  |
|                                          | 3HR(10.8V)  | 24Ah                                                  |
|                                          | 1HR(10.5V)  | 19Ah                                                  |
| Terminal type                            |             | T14/T6                                                |
| Internal resistance (Fully charged,25°C) |             | Approx.11m Ω                                          |
| Capacity affected by temperature (10HR)  | 40°C        | 102%                                                  |
|                                          | 25°C        | 100%                                                  |
|                                          | 0°C         | 85%                                                   |
|                                          | -15°C       | 65%                                                   |
| Self-discharge (25°C)                    | 3month      | Remaining Capacity:91%                                |
|                                          | 6month      | Remaining Capacity:82%                                |
|                                          | 12month     | Remaining Capacity:65%                                |
| Nominal operating temperature            |             | 25°C ±3°C(77°F ±5°F)                                  |
| Operating temperature range              | Discharge   | -15°C~50°C(5°F~122°F)                                 |
|                                          | Charge      | -10°C~50°C(14°F~122°F)                                |
|                                          | Storage     | -20°C~50°C(-4°F~122°F)                                |
| Float charging voltage(25°C)             |             | 13.50 to 13.80V<br>Temperature compensation: -18mV/°C |
| Cyclic charging voltage(25°C)            |             | 14.50 to 15.00V<br>Temperature compensation: -30mV/°C |
| Maximum charging current                 |             | 9.9A                                                  |
| Terminal material                        |             | Copper/Lead                                           |
| Maximum discharge current                |             | 330A(5 sec.)                                          |
| Designed floating life(20°C)             |             | 10years                                               |

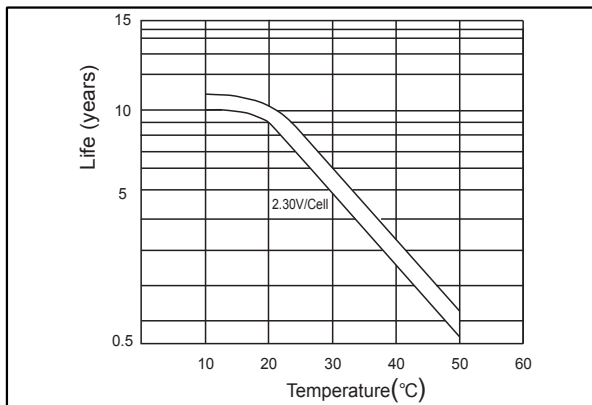
#### Discharge Characteristics 25°C



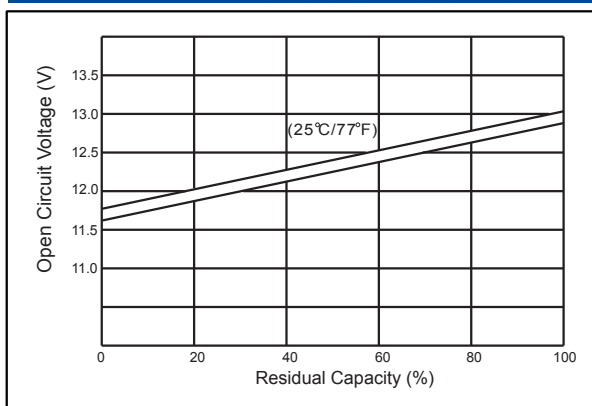
#### Temperature Effects on Capacity



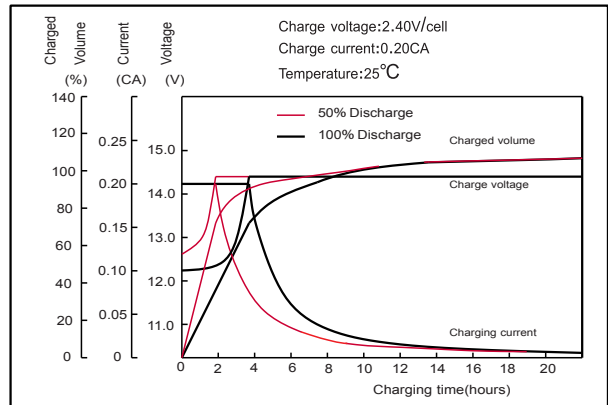
#### Floating life on Temperature



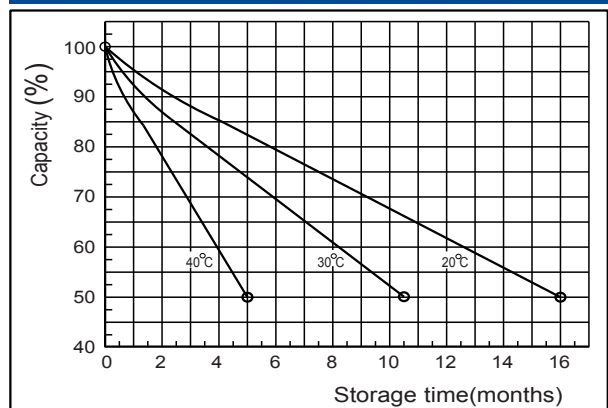
#### The relationship for OCV and Capacity (25°C)



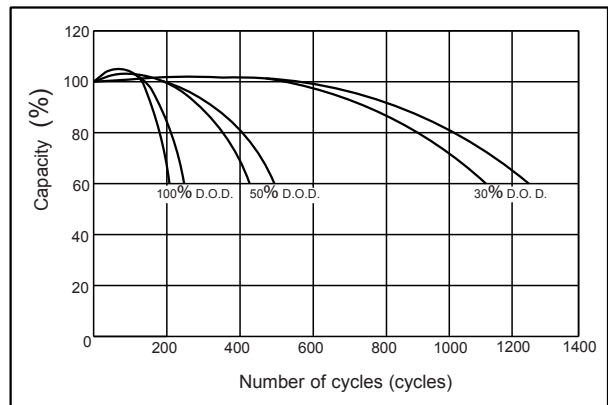
#### Charging Characteristics 25°C



#### Self-discharge characteristics



#### Cycle life on D.O.D (25°C)



#### The relationship for Charging voltage and Temperature

