

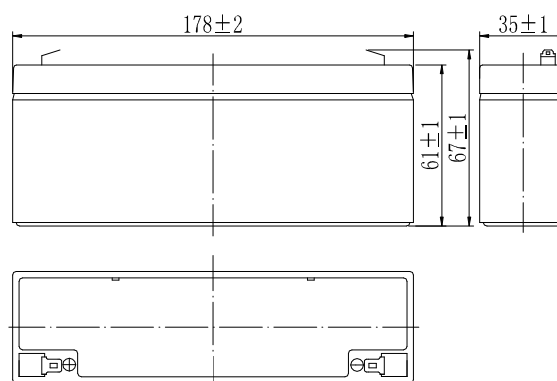
## Specifications

|                                                  |              |                                                          |
|--------------------------------------------------|--------------|----------------------------------------------------------|
| Nominal Voltage                                  |              | 12 V                                                     |
| Capacity<br>(25°C)                               | 20HR(10.5V)  | 2.3Ah                                                    |
|                                                  | 10HR(10.5V)  | 2.1Ah                                                    |
|                                                  | 1HR(9.60V)   | 1.5Ah                                                    |
| Dimension                                        | Length       | 178±2mm (7.01inch)                                       |
|                                                  | Width        | 35±1mm (1.38inch)                                        |
|                                                  | Height       | 61±1mm (2.40inch)                                        |
|                                                  | Total Height | 67±1mm (2.64inch)                                        |
| Approx. Weight                                   |              | 0.88kg (1.94lbs)±5%                                      |
| Terminal type                                    |              | T1/T2                                                    |
| Internal resistance<br>(Fully charged, 25°C)     |              | Approx. 60mΩ                                             |
| Capacity<br>affected by<br>temperature<br>(20HR) | 40°C         | 102%                                                     |
|                                                  | 25°C         | 100%                                                     |
|                                                  | 0°C          | 85%                                                      |
|                                                  | -15°C        | 65%                                                      |
| Self-discharge<br>(25°C)                         | 3 month      | Remaining Capacity: 91%                                  |
|                                                  | 6 month      | Remaining Capacity: 82%                                  |
|                                                  | 12 month     | Remaining Capacity: 65%                                  |
| Nominal operating<br>temperature                 |              | 25°C ± 3°C (77°F ± 5°F)                                  |
| Operating<br>temperature<br>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)                     |              | 13.60 to 13.80V<br>Temperature compensation:<br>-18mV/°C |
| Cyclic charging voltage(25°C)                    |              | 14.50 to 14.90V<br>Temperature compensation:<br>-30mV/°C |
| Maximum charging current                         |              | 0.69A                                                    |
| Terminal material                                |              | Copper                                                   |
| Maximum discharge current                        |              | 34.5A(5 sec.)                                            |
| Designed floating life(20°C)                     |              | 10years                                                  |

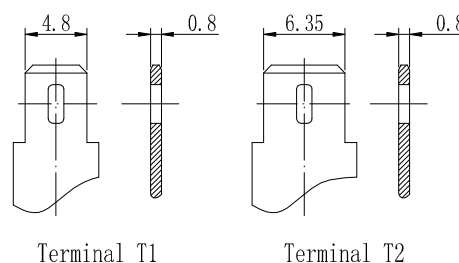


- ◆ Absorbent glass mat technology;
- ◆ Recognized by CE& VDS;
- ◆ ABS container.

## Dimensions



## Terminal



Terminal T1

Terminal T2

## Constant Current Discharge Characteristics (A, 25°C)

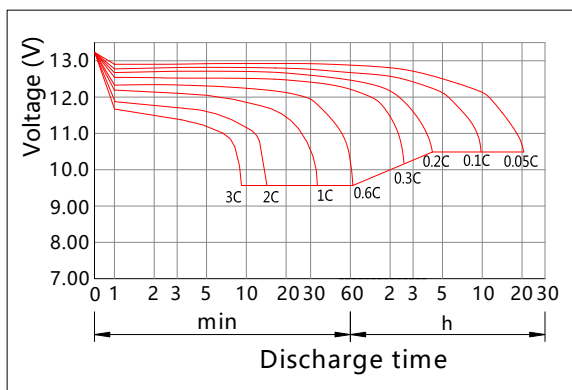
| F. V/TIME | 5min | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h   |
|-----------|------|-------|-------|-------|-------|------|------|------|------|------|------|-------|
| 9.60V     | 8.74 | 5.52  | 4.37  | 2.44  | 1.5   | 0.82 | 0.59 | 0.47 | 0.4  | 0.26 | 0.22 | 0.117 |
| 9.90V     | 8.48 | 5.35  | 4.27  | 2.39  | 1.47  | 0.81 | 0.58 | 0.47 | 0.4  | 0.26 | 0.22 | 0.116 |
| 10.2V     | 8.13 | 5.13  | 4.11  | 2.32  | 1.44  | 0.81 | 0.58 | 0.46 | 0.39 | 0.25 | 0.22 | 0.116 |
| 10.5V     | 7.78 | 4.91  | 3.97  | 2.26  | 1.41  | 0.79 | 0.58 | 0.46 | 0.39 | 0.25 | 0.21 | 0.115 |
| 10.8V     | 7.34 | 4.64  | 3.76  | 2.18  | 1.36  | 0.77 | 0.56 | 0.45 | 0.38 | 0.24 | 0.21 | 0.113 |

## Constant Power Discharge Characteristics (Watt, 25°C)

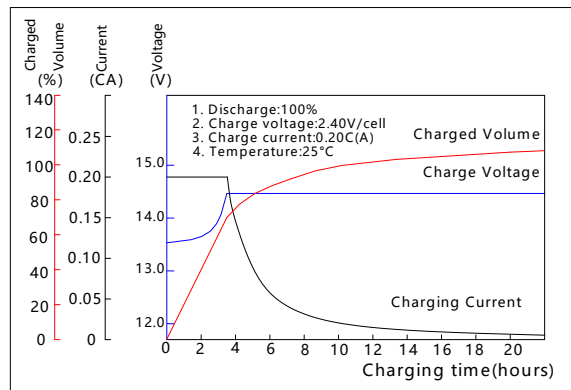
| F. V/TIME | 5min | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|-----------|------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V     | 97.5 | 62.3  | 49.8  | 27.9  | 17.3  | 9.56 | 6.97 | 5.59 | 4.76 | 3.10 | 2.61 | 1.40 |
| 9.90V     | 94.6 | 60.4  | 48.6  | 27.4  | 17.1  | 9.50 | 6.93 | 5.56 | 4.73 | 3.09 | 2.60 | 1.40 |
| 10.2V     | 90.7 | 57.9  | 46.8  | 26.5  | 16.6  | 9.42 | 6.88 | 5.52 | 4.70 | 3.05 | 2.58 | 1.39 |
| 10.5V     | 86.8 | 55.4  | 45.2  | 25.9  | 16.3  | 9.28 | 6.83 | 5.48 | 4.67 | 3.03 | 2.57 | 1.38 |
| 10.8V     | 81.9 | 52.3  | 42.8  | 24.9  | 15.8  | 9.04 | 6.63 | 5.31 | 4.53 | 2.95 | 2.52 | 1.35 |

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

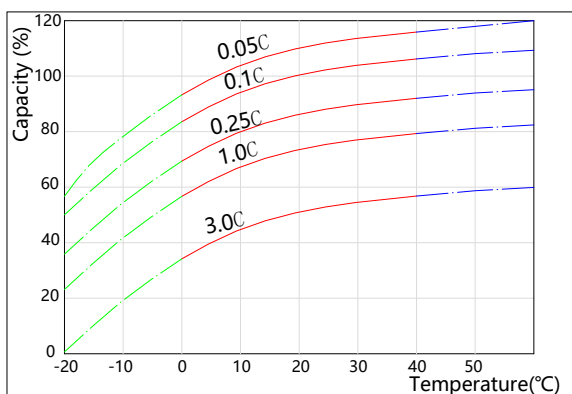
### Discharge Characteristics(25°C)



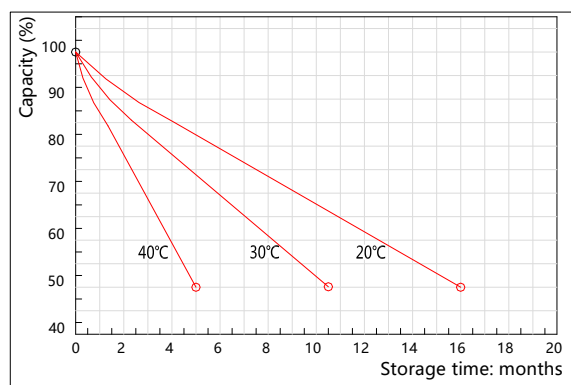
### Charging Characteristics(25°C)



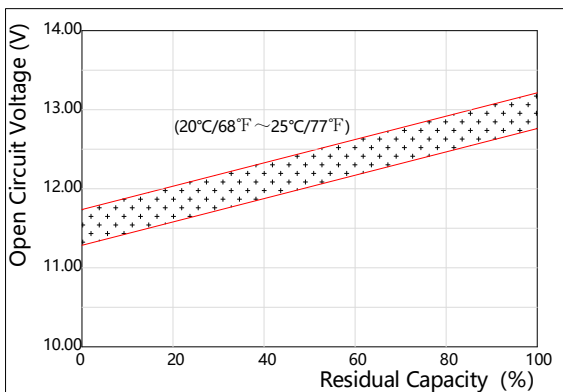
### Effect of Temperature on Capacity



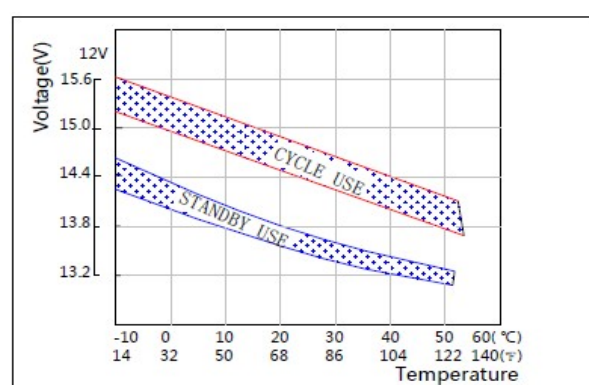
### Self-discharge Characteristics



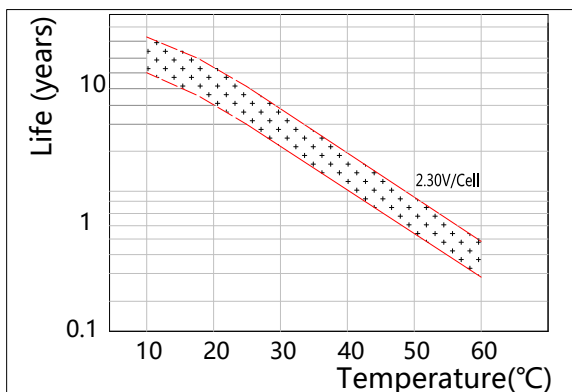
### The Relationship for Open Circuit Voltage and Residual Capacity (25°C)



### The Relationship for Charging Voltage and Temperature



### Floating Life on Temperature



### Cycle Life on D.O.D.(25°C)

