

## Specification

|                                  |  |                               |
|----------------------------------|--|-------------------------------|
| Nominal Voltage                  | 12V  |                               |
| Nominal Capacity(20HR)           | 1.2AH  |                               |
| Dimensions                       | Length   | 97±1mm (3.82 inches)          |
|                                  | Width  | 43±1mm (1.69 inches)          |
|                                  | Container Height   | 52±1mm (2.04 inches)          |
|                                  | Total Height (with Terminal)   | 58±1mm (2.28 inches)          |
| Approx Weight                    | Approx 0.57 kg (1.26lbs)   |                               |
| Terminal                         | T1   |                               |
| Container Material               | ABS  |                               |
| Rated Capacity                   | 1.20 AH/0.600A   | (20hr , 1.80V/cell,25°C/77°F) |
|                                  | 1.12 AH/0.112A   | (10hr, 1.80V/cell,25°C/77°F)  |
|                                  | 1.02 AH/0.204A   | (5hr, 1.75V/cell,25°C/77°F)   |
|                                  | 0.918 AH/0.306A  | (3hr, 1.75V/cell,25°C/77°F)   |
|                                  | 0.754 AH/0.754A  | (1hr, 1.60V/cell,25°C/77°F)   |
| Max. Discharge Current           | 18A (5s)   |                               |
| Internal Resistance              | Approx 90mΩ  |                               |
| Operating Temp. Range            | Discharge  | : -15~50°C (5~122°F)          |
|                                  | Charge   | : 0~40°C (32~104°F)           |
|                                  | Storage  | : -15~40°C (5~104°F)          |
| Nominal Operating Temp. Range    | 25±3°C (77±5°F)  |                               |
| Cycle Use                        | Initial Charging Current less than 0.63A. Voltage  |                               |
|                                  | 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C  |                               |
| Standby Use                      | No limit on Initial Charging Current Voltage   |                               |
|                                  | 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C  |                               |
| Capacity affected by Temperature | 40°C (104°F)   | 103%                          |
|                                  | 25°C (77°F)  | 100%                          |
|                                  | 0°C (32°F)   | 86%                           |
| Self Discharge                   | General purpose batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. |                               |
|                                  | For higher temperatures the time interval will be shorter.   |                               |
| Life expectancy                  | 3~5 years at 25°C with charge voltage of 2.25V/cell  |                               |



## Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system



Conform to:

IEC60896-21&22 and/or IEC61427

## Constant Current Discharge (Amperes) at 25 °C (77°F)

| F.V/Time   | 5min | 10min | 15min | 20min | 30min | 45min | 1h    | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   |
|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.85V/cell | 2.29 | 1.75  | 1.45  | 1.26  | 0.97  | 0.716 | 0.603 | 0.357 | 0.279 | 0.227 | 0.185 | 0.161 | 0.130 | 0.108 | 0.059 |
| 1.80V/cell | 3.07 | 2.24  | 1.76  | 1.49  | 1.15  | 0.833 | 0.676 | 0.390 | 0.300 | 0.242 | 0.199 | 0.172 | 0.137 | 0.112 | 0.060 |
| 1.75V/cell | 3.46 | 2.46  | 1.92  | 1.60  | 1.19  | 0.864 | 0.707 | 0.404 | 0.306 | 0.248 | 0.204 | 0.177 | 0.140 | 0.115 | 0.061 |
| 1.70V/cell | 3.81 | 2.69  | 2.05  | 1.68  | 1.24  | 0.899 | 0.729 | 0.414 | 0.315 | 0.254 | 0.209 | 0.181 | 0.142 | 0.117 | 0.062 |
| 1.65V/cell | 4.20 | 2.90  | 2.18  | 1.78  | 1.31  | 0.921 | 0.746 | 0.420 | 0.328 | 0.263 | 0.215 | 0.185 | 0.144 | 0.119 | 0.063 |
| 1.60V/cell | 4.63 | 3.15  | 2.33  | 1.90  | 1.38  | 0.960 | 0.754 | 0.438 | 0.338 | 0.271 | 0.222 | 0.189 | 0.145 | 0.121 | 0.063 |

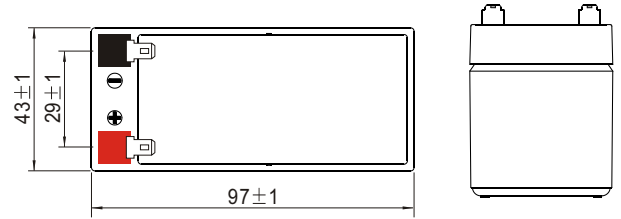
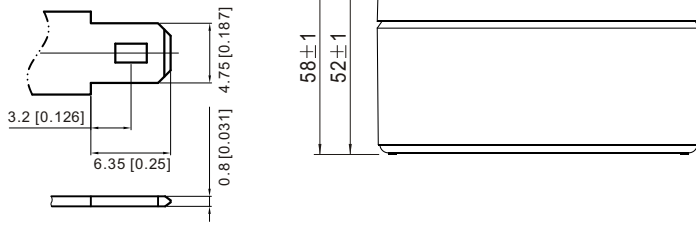
## Constant Power Discharge (Watts/cell) at 25 °C (77°F)

| F.V/Time   | 5min | 10min | 15min | 20min | 30min | 45min | 1h   | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   |
|------------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.85V/cell | 4.18 | 3.24  | 2.71  | 2.37  | 1.85  | 1.38  | 1.16 | 0.693 | 0.544 | 0.444 | 0.363 | 0.316 | 0.256 | 0.214 | 0.118 |
| 1.80V/cell | 5.55 | 4.09  | 3.23  | 2.76  | 2.15  | 1.59  | 1.30 | 0.751 | 0.582 | 0.471 | 0.388 | 0.337 | 0.271 | 0.221 | 0.119 |
| 1.75V/cell | 6.12 | 4.43  | 3.49  | 2.94  | 2.22  | 1.63  | 1.35 | 0.776 | 0.591 | 0.480 | 0.397 | 0.346 | 0.275 | 0.226 | 0.120 |
| 1.70V/cell | 6.56 | 4.71  | 3.67  | 3.07  | 2.29  | 1.69  | 1.39 | 0.794 | 0.606 | 0.492 | 0.406 | 0.352 | 0.278 | 0.231 | 0.122 |
| 1.65V/cell | 7.13 | 5.04  | 3.87  | 3.23  | 2.40  | 1.72  | 1.41 | 0.801 | 0.629 | 0.507 | 0.416 | 0.359 | 0.282 | 0.235 | 0.123 |
| 1.60V/cell | 7.68 | 5.35  | 4.08  | 3.41  | 2.52  | 1.78  | 1.42 | 0.831 | 0.645 | 0.521 | 0.428 | 0.365 | 0.284 | 0.237 | 0.124 |

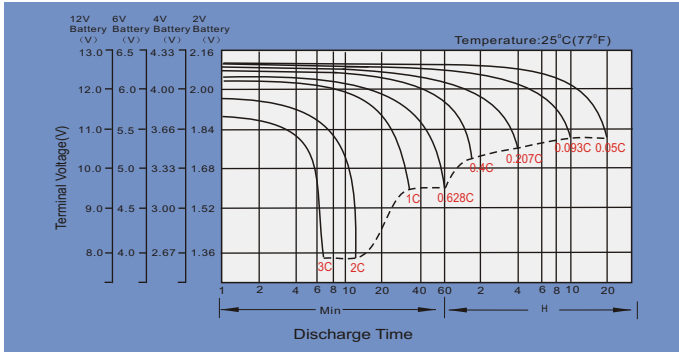
# Dimensions

## T1 Terminal

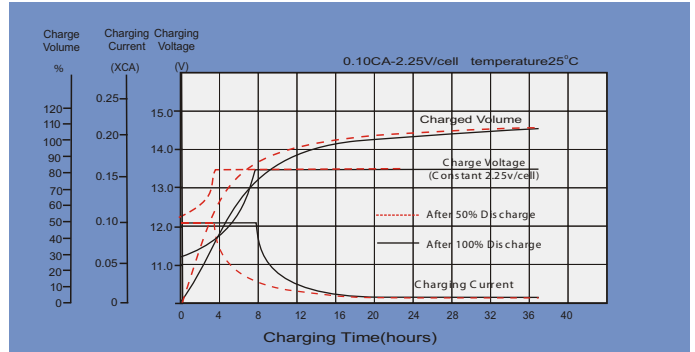
Unit: mm [inches]



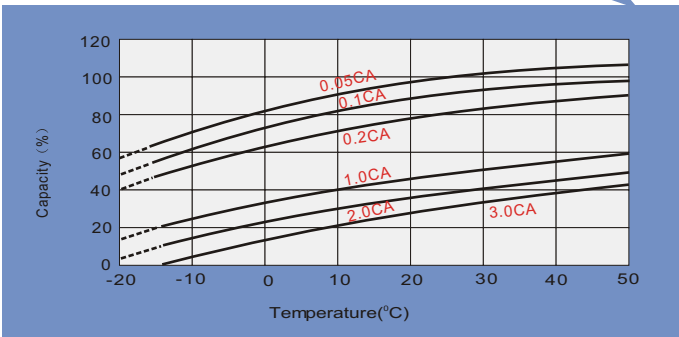
## Discharge Characteristics



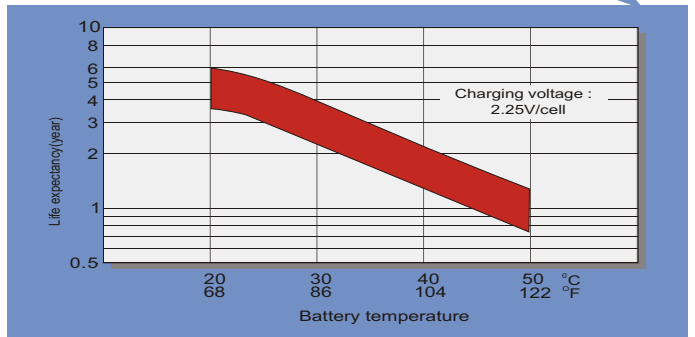
## Float Charging Characteristics



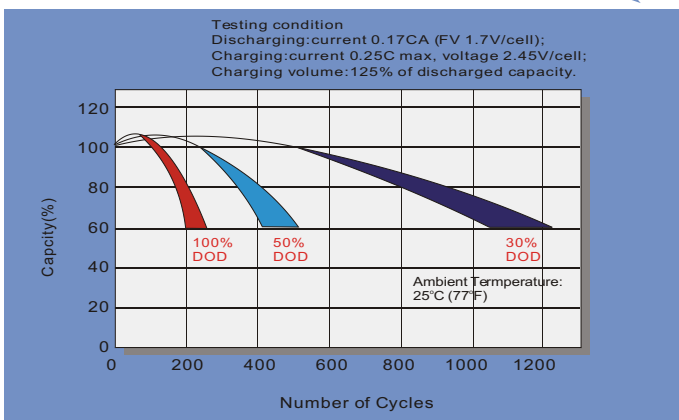
## Temperature Effects in Relation to Battery Capacity



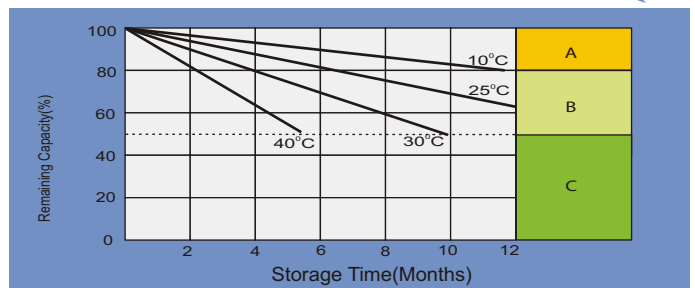
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## Self Discharge Characteristics



- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required).
- B** Supplementary charge required before use. Optimal charging way as below:  
 1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
 2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
 3. Charged for 8~10 hours at limited current 0.05 CA.
- C** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.