

### UL12-6



### Physical Specification

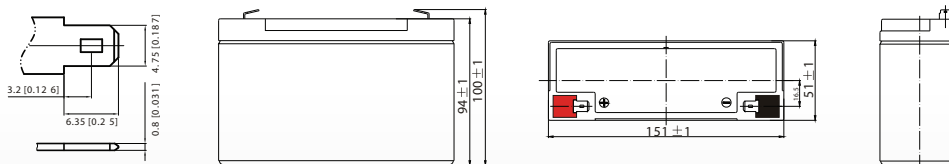
|                               |                                 |
|-------------------------------|---------------------------------|
| Part Number:                  | <b>UL12-6</b>                   |
| Length:                       | <b>151 ± 2 mm (5.94 inches)</b> |
| Width:                        | <b>51 ± 2 mm (2.01 inches)</b>  |
| Container Height:             | <b>94 ± 2 mm (3.70 inches)</b>  |
| Total Height (with terminal): | <b>100 ± 2 mm (3.94 inches)</b> |
| Approx Weight:                | <b>Approx 1.62kg (2.57lbs)</b>  |

### Specifications

|                                  |  |  |
|----------------------------------|--|--|
|                                  | Normal Voltage   | 6V   |
|                                  | Normal Capacity (20HR)   | 12AH   |
| Terminal Type                    | Standard Terminal  | F1   |
|                                  | Optional Terminal  | F2   |
| Container Material               | Standard Option  | ABS  |
|                                  | Flame Retardant Option (FR)  | UL94:VO  |
| Rated Capacity                   | 12.0 AH/0.60A  | (20hr, 1.80V/cell, 25°C / 77°F)  |
|                                  | 11.16 AH/1.12A   | (10hr, 1.80V/cell, 25°C / 77°F)  |
|                                  | 10.2 AH/2.04A  | (5hr, 1.75V/cell, 25°C / 77°F)   |
|                                  | 9.2 AH/3.06A   | (3hr, 1.75V/cell, 25°C / 77°F)   |
|                                  | 7.54 AH/7.54A  | (1hr, 1.60V/cell, 25°C / 77°F)   |
| Max Discharge Current            | 180A (5s)  |  |
| Internal Resistance              | Approx 15mΩ  |  |
| Discharge Characteristics        | Operating Temp. Range  | Discharge: -15 ~ 50°C (5 ~ 122°F)  |
|                                  |  | Charge: 0 ~ 40°C (5 ~ 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 3.6A. Voltage 7.2V ~ 7.5V at 25°C (77°F) Temp. Coefficient -15mV/°C |
|                                  | Standby Use  | No limit on Initial Charging Current Voltage 6.75V ~ 6.9V at 25°C (77°F) Temp. Coefficient -10mV/°C    |
| Capacity affected by Temperature | 40°C (104°F) 103%  |  |
|                                  | 25°C (77°F) 100%   |  |
|                                  | 0°C (32°F) 86%   |  |
| Design Floating Life at 20°C     | 5 Years  |  |
| Self Discharge                   | Ultracell batteries may be stored for up to 6 months at 25°C(77°F) and then a refresh charge is required. For higher temperatures the time interval will be shorter. |  |

### Dimensions

#### F1 Terminal



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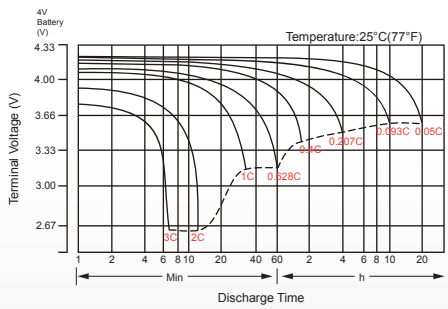
### Constant Current Discharge (Amperes) at 25°C (77°F)

| F.V/Time   | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h   |
|------------|-------|--------|--------|--------|--------|--------|------|------|------|------|------|------|------|------|-------|
| 1.85V/cell | 22.9  | 17.5   | 14.5   | 12.6   | 9.72   | 7.16   | 6.03 | 3.57 | 2.79 | 2.27 | 1.85 | 1.61 | 1.30 | 1.08 | 0.594 |
| 1.80V/cell | 30.7  | 22.4   | 17.6   | 14.9   | 11.5   | 8.33   | 6.76 | 3.90 | 3.00 | 2.42 | 1.99 | 1.72 | 1.37 | 1.12 | 0.600 |
| 1.75V/cell | 34.6  | 24.6   | 19.2   | 16.0   | 11.9   | 8.64   | 7.07 | 4.04 | 3.06 | 2.48 | 2.04 | 1.77 | 1.40 | 1.15 | 0.606 |
| 1.70V/cell | 38.1  | 26.9   | 20.5   | 16.8   | 12.4   | 8.99   | 7.29 | 4.14 | 3.15 | 2.54 | 2.09 | 1.81 | 1.42 | 1.17 | 0.617 |
| 1.65V/cell | 42.0  | 29.0   | 21.8   | 17.8   | 13.1   | 9.21   | 7.46 | 4.20 | 3.28 | 2.63 | 2.15 | 1.85 | 1.44 | 1.19 | 0.625 |
| 1.60V/cell | 46.3  | 31.5   | 23.3   | 19.0   | 13.8   | 9.60   | 7.54 | 4.38 | 3.38 | 2.71 | 2.22 | 1.89 | 1.45 | 1.21 | 0.629 |

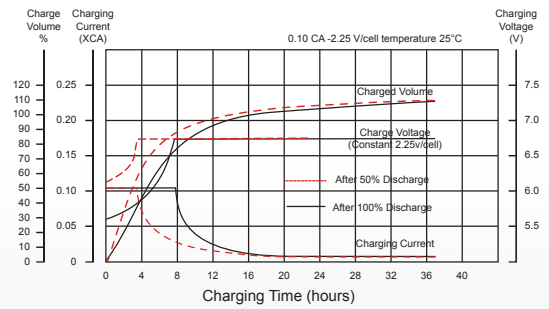
### Constant Power Discharge (Watts) at 25°C (77°F)

| F.V/Time   | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|--------|--------|--------|--------|--------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 41.8  | 32.4   | 27.1   | 23.7   | 18.5   | 13.8   | 11.6 | 6.93 | 5.44 | 4.44 | 3.63 | 3.16 | 2.56 | 2.14 | 1.18 |
| 1.80V/cell | 55.5  | 40.9   | 32.3   | 27.6   | 21.5   | 15.9   | 13.0 | 7.51 | 5.82 | 4.71 | 3.88 | 3.37 | 2.71 | 2.21 | 1.19 |
| 1.75V/cell | 61.2  | 44.3   | 34.9   | 29.4   | 22.2   | 16.3   | 13.5 | 7.76 | 5.91 | 4.80 | 3.97 | 3.46 | 2.75 | 2.26 | 1.20 |
| 1.70V/cell | 65.6  | 47.1   | 36.7   | 30.7   | 22.9   | 16.9   | 13.9 | 7.94 | 6.06 | 4.92 | 4.06 | 3.52 | 2.78 | 2.31 | 1.22 |
| 1.65V/cell | 71.3  | 50.4   | 38.7   | 32.3   | 24.0   | 17.2   | 14.1 | 8.01 | 6.29 | 5.07 | 4.16 | 3.59 | 2.82 | 2.35 | 1.23 |
| 1.60V/cell | 76.8  | 53.5   | 40.8   | 34.1   | 25.2   | 17.8   | 14.2 | 8.31 | 6.45 | 5.21 | 4.28 | 3.65 | 2.84 | 2.37 | 1.24 |

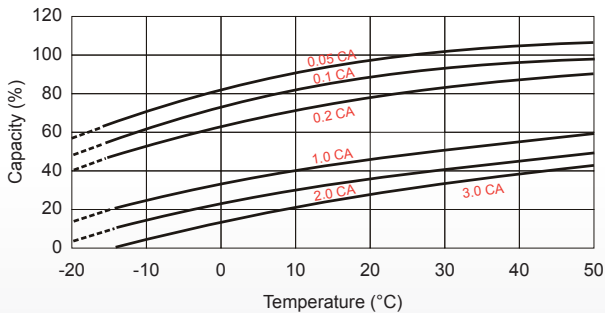
### Discharge Characteristics



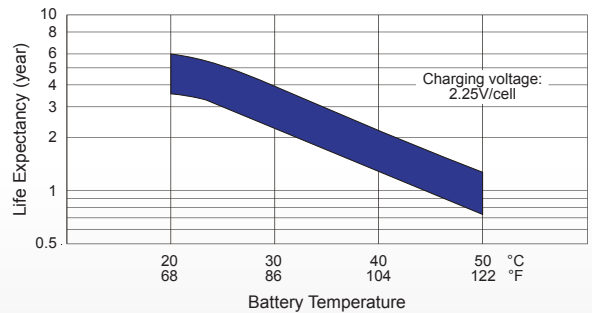
### Float Charging Characteristics



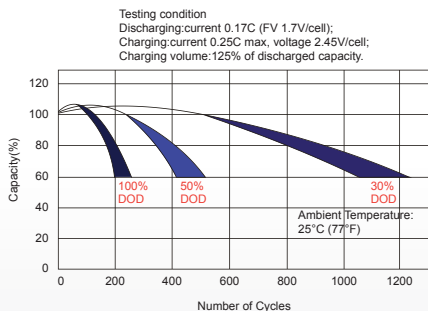
### Temperature Effects in Relation to Battery Capacity



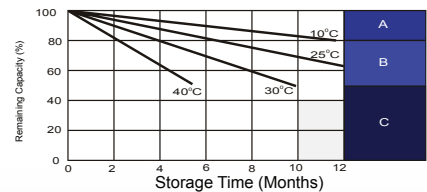
### Effect of Temperature on Long Term Float Life



### Cycle Life in Relation to Depth of Discharge



### Self Discharge Characteristics



- A** No supplementary required (Carryout supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional 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 2.25V/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.

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