

## UP3.5-4



| Specification                       |  |                               |
|-------------------------------------|--|-------------------------------|
| Nominal Voltage                     | 4V   |                               |
| Nominal Capacity (20HR)             | 3.5AH  |                               |
| Dimension                           | Length   | 90±1mm (3.54 inches)          |
|                                     | Width  | 34±1mm (1.34 inches)          |
|                                     | Container Height   | 59±1mm (2.32 inches)          |
|                                     | Total Height (with Terminal)   | 65±1mm (2.56 inches)          |
| Approx Weight                       | Approx 0.42 kg (0.93lbs)   |                               |
| Terminal                            | T1   |                               |
| Container Material                  | ABS  |                               |
| Rated Capacity                      | 3.50 AH/0.175A   | (20hr, 1.80V/cell, 25°C/77°F) |
|                                     | 3.26 AH/0.326A   | (10hr, 1.80V/cell, 25°C/77°F) |
|                                     | 3.00 AH/0.60A  | (5hr, 1.75V/cell, 25°C/77°F)  |
|                                     | 2.67 AH/0.89A  | (3hr, 1.75V/cell, 25°C/77°F)  |
|                                     | 2.20 AH/2.20A  | (1hr, 1.60V/cell, 25°C/77°F)  |
| Max. Discharge Current              | 52.5A (5s)   |                               |
| Internal Resistance                 | Approx 14mΩ  |                               |
| Operating Temperature Range         | Discharge: -15~50°C (5~122°F)  |                               |
|                                     | Change : 0~40°C (32~104°F)   |                               |
|                                     | Storage : -15~40°C (5~104°F)   |                               |
| Nominal Operating Temperature Range | 25±3°C (77±5°F)  |                               |
| Cycle Use                           | Initial Charging Current less than 1.05A. Voltage. 4.8V~5.0V at 25°C (77°F) Temp. Coefficient -10mV/°C |                               |
| Standby Use                         | No limit on Initial Charging Current Voltage. 4.5V~4.6V at 25°C (77°F) Temp. Coefficient -6mV/°C       |                               |
| Capacity affected by Temperature    | 40°C (104°F) 103%  |                               |
|                                     | 25°C (77°F) 100%   |                               |
|                                     | 0°C (32°F) 86%   |                               |
| Self Discharge                      | Batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required.    |                               |

### 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 | 6.67 | 5.12  | 4.24  | 3.67  | 2.83  | 2.09  | 1.76 | 1.04 | 0.81 | 0.66 | 0.54 | 0.47 | 0.378 | 0.316 | 0.173 |
| 1.80V/cell | 8.90 | 6.54  | 5.12  | 4.33  | 3.34  | 2.43  | 1.97 | 1.14 | 0.88 | 0.71 | 0.58 | 0.50 | 0.401 | 0.326 | 0.175 |
| 1.75V/cell | 10.1 | 7.19  | 5.6   | 4.66  | 3.47  | 2.52  | 2.06 | 1.18 | 0.89 | 0.72 | 0.60 | 0.52 | 0.408 | 0.334 | 0.177 |
| 1.70V/cell | 11.1 | 7.83  | 5.97  | 4.9   | 3.61  | 2.62  | 2.13 | 1.21 | 0.92 | 0.74 | 0.61 | 0.53 | 0.413 | 0.341 | 0.180 |
| 1.65V/cell | 12.2 | 8.45  | 6.35  | 5.2   | 3.81  | 2.69  | 2.18 | 1.23 | 0.96 | 0.77 | 0.63 | 0.54 | 0.42  | 0.348 | 0.182 |
| 1.60V/cell | 13.5 | 9.20  | 6.79  | 5.54  | 4.03  | 2.80  | 2.20 | 1.28 | 0.99 | 0.79 | 0.65 | 0.55 | 0.424 | 0.352 | 0.183 |

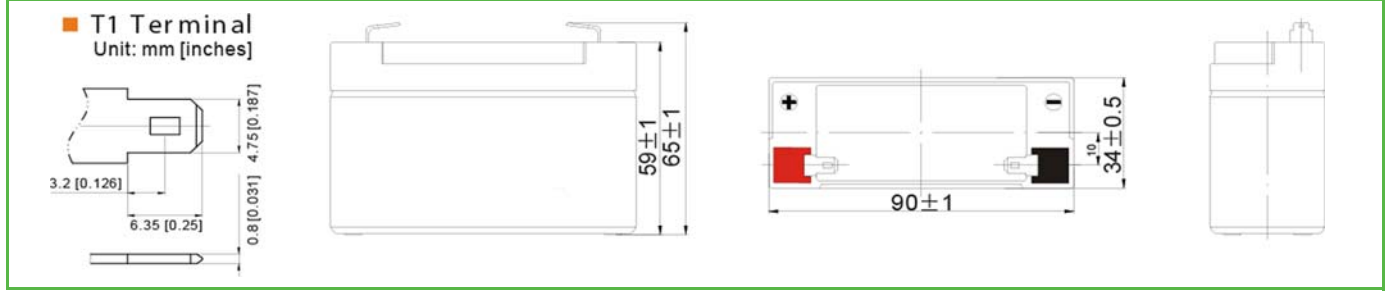
### Constant Power Discharge (Watts) at 25°C (77°F)

| F.V/Time   | 5min | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h    | 10h   | 20h   |
|------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|-------|-------|
| 1.85V/cell | 12.2 | 9.50  | 7.91  | 6.91  | 5.40  | 4.01  | 3.40 | 2.02 | 1.59 | 1.29 | 1.06 | 0.92 | 0.746 | 0.625 | 0.343 |
| 1.80V/cell | 16.2 | 11.9  | 9.40  | 8.05  | 6.28  | 4.63  | 3.78 | 2.19 | 1.70 | 1.37 | 1.13 | 0.98 | 0.789 | 0.643 | 0.346 |
| 1.75V/cell | 17.9 | 12.9  | 10.2  | 8.58  | 6.46  | 4.76  | 3.94 | 2.26 | 1.72 | 1.40 | 1.16 | 1.01 | 0.801 | 0.660 | 0.349 |
| 1.70V/cell | 19.1 | 13.8  | 10.7  | 8.90  | 6.69  | 4.93  | 4.05 | 2.32 | 1.77 | 1.44 | 1.18 | 1.03 | 0.811 | 0.672 | 0.355 |
| 1.65V/cell | 20.8 | 14.7  | 11.3  | 9.40  | 7.00  | 5.01  | 4.11 | 2.34 | 1.84 | 1.48 | 1.21 | 1.05 | 0.822 | 0.685 | 0.360 |
| 1.60V/cell | 22.4 | 15.6  | 11.9  | 9.90  | 7.34  | 5.19  | 4.13 | 2.42 | 1.88 | 1.52 | 1.25 | 1.07 | 0.828 | 0.691 | 0.361 |

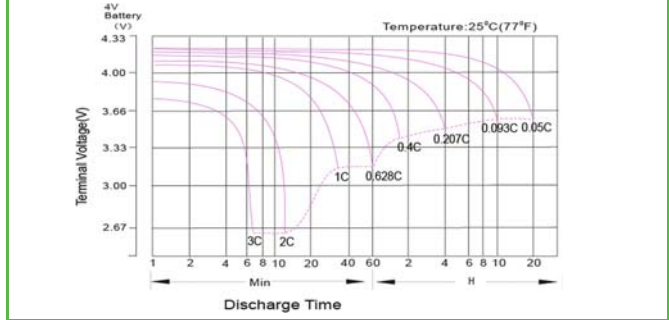


**UP3.5-4**

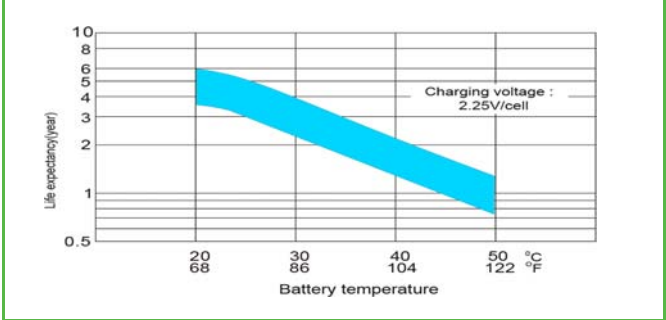
**Dimensions**



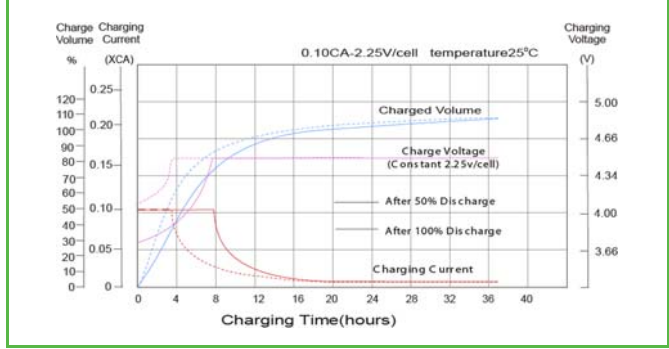
**Discharge Characteristics**



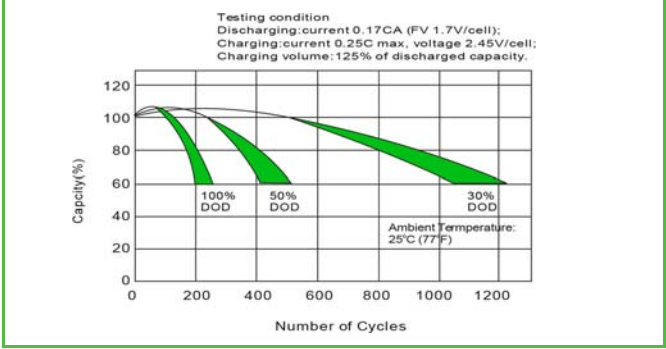
**Effect of Temperature on Long Term Float Life**



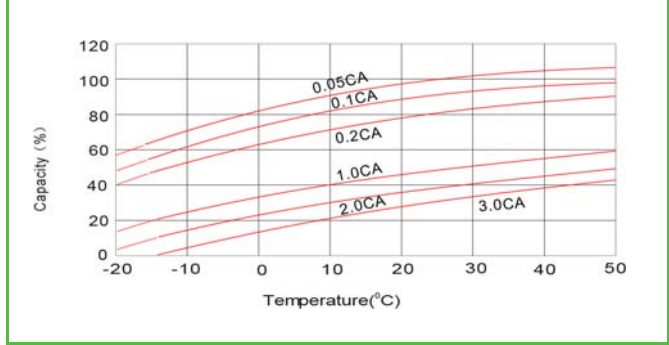
**Float Charging Characteristics**



**Cycle Life in Relation to Depth of Discharge**



**Temperature Effects in Relation to Battery Capacity**



**Self Discharge Characteristics**

