

**Specifications**

|                                                  |              |                                                          |
|--------------------------------------------------|--------------|----------------------------------------------------------|
| Nominal Voltage                                  |              | 12 V                                                     |
| Capacity<br>(25°C)                               | 10HR(10.8V)  | 45 Ah                                                    |
|                                                  | 5HR(10.5V)   | 39.4Ah                                                   |
|                                                  | 1HR(9.60V)   | 27.9Ah                                                   |
| Dimension                                        | Length       | 197 ± 2mm (7.76inch)                                     |
|                                                  | Width        | 165 ± 2mm (6.50inch)                                     |
|                                                  | Height       | 170 ± 2mm (6.69inch)                                     |
|                                                  | Total Height | 170 ± 2mm (6.69inch)                                     |
| Approx. Weight                                   |              | 13.7kg (30.1lbs) ± 4%                                    |
| Terminal type                                    |              | T4/T9                                                    |
| Internal resistance<br>(Fully charged, 25°C)     |              | Approx. 8m Ω                                             |
| Capacity<br>affected by<br>temperature<br>(10HR) | 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)                     |              | 13.50 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                         |              | 13.5A                                                    |
| Terminal material                                |              | Copper                                                   |
| Maximum discharge current                        |              | 450A(5 sec.)                                             |
| Designed floating life(20°C)                     |              | 12 years                                                 |

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

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

| F.V/TIME | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 94.5  | 74.3  | 45.0  | 27.9  | 16.4 | 11.5 | 9.41 | 8.03 | 5.51 | 4.58 | 2.41 |
| 9.90V    | 91.7  | 72.5  | 44.1  | 27.5  | 16.3 | 11.4 | 9.35 | 7.99 | 5.48 | 4.57 | 2.40 |
| 10.2V    | 87.9  | 69.8  | 42.8  | 26.8  | 16.2 | 11.3 | 9.29 | 7.93 | 5.44 | 4.56 | 2.39 |
| 10.5V    | 84.1  | 67.4  | 41.7  | 26.3  | 16.0 | 11.3 | 9.23 | 7.88 | 5.40 | 4.53 | 2.38 |
| 10.8V    | 79.4  | 63.9  | 40.2  | 25.4  | 15.6 | 10.9 | 8.95 | 7.64 | 5.24 | 4.50 | 2.36 |

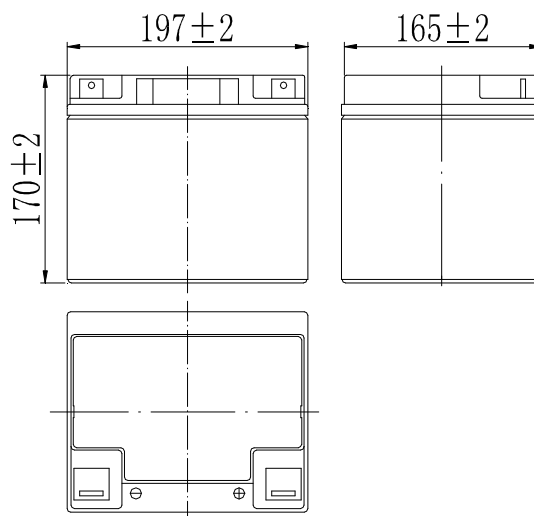
**Constant Power Discharge Characteristics (Watt, 25°C)**

| F.V/TIME | 10min | 15min | 30min | 60min | 2h  | 3h  | 4h  | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|
| 9.60V    | 1021  | 815   | 505   | 318   | 190 | 135 | 111 | 94.9 | 65.4 | 54.7 | 28.9 |
| 9.90V    | 990   | 796   | 495   | 313   | 189 | 134 | 110 | 94.4 | 65.1 | 54.6 | 28.8 |
| 10.2V    | 949   | 766   | 480   | 305   | 188 | 133 | 109 | 93.7 | 64.6 | 54.4 | 28.7 |
| 10.5V    | 908   | 740   | 468   | 299   | 185 | 132 | 108 | 93.1 | 64.2 | 54.1 | 28.5 |
| 10.8V    | 857   | 701   | 451   | 290   | 180 | 128 | 105 | 90.3 | 62.2 | 53.7 | 28.4 |

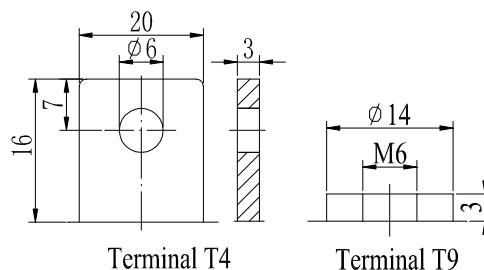
Note: The above characteristics data can be obtained within three charge/discharge cycles.



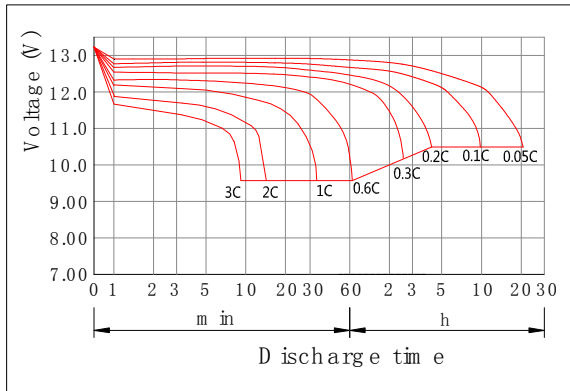
**Dimensions**



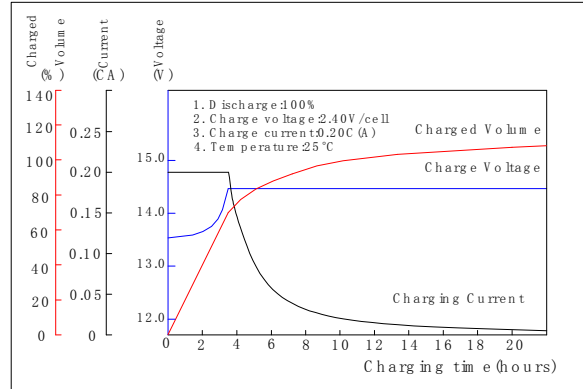
**Terminal**



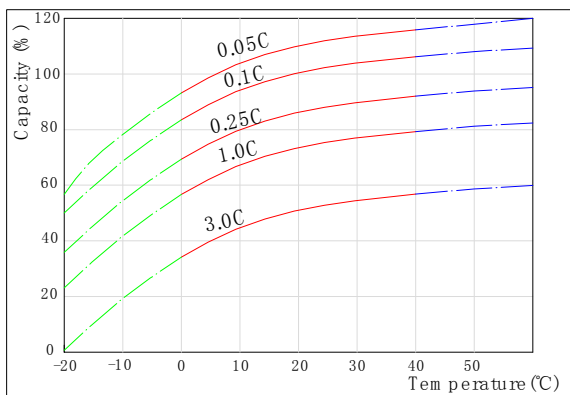
### Discharge Characteristics(25°C)



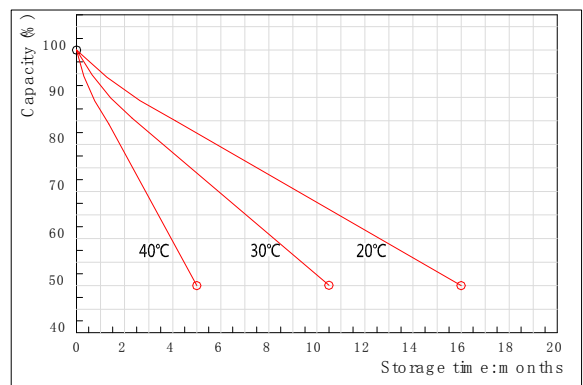
### Charging Characteristics(25°C)



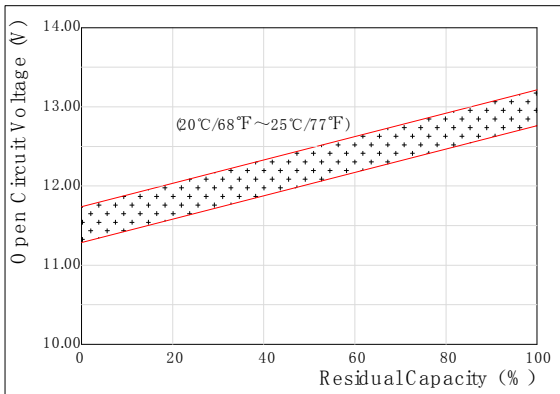
### Effect of Temperature on Capacity



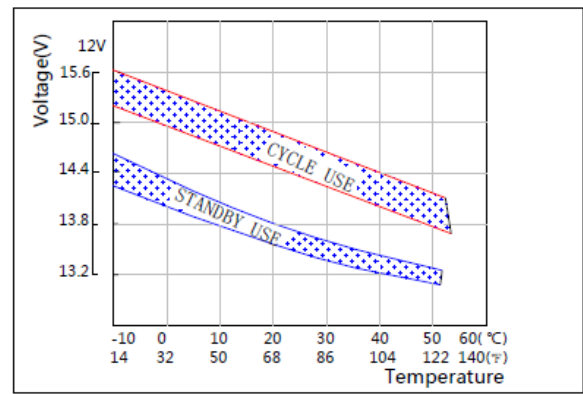
### Self-discharge Characteristics



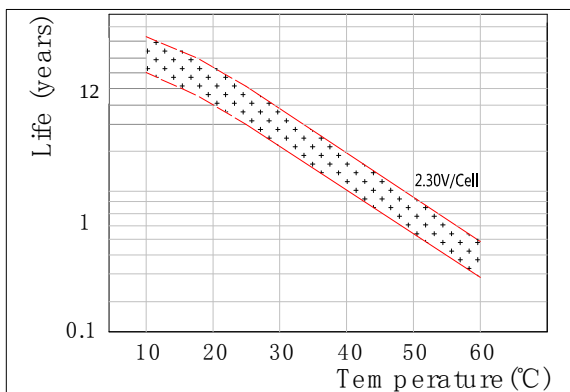
### The Relationship for Open Circuit Voltage and Residual Capacity (25°C)



### The Relationship for Charging Voltage and Temperature



### Floating Life on Temperature



### Cycle Life on D.O.D.(25°C)

