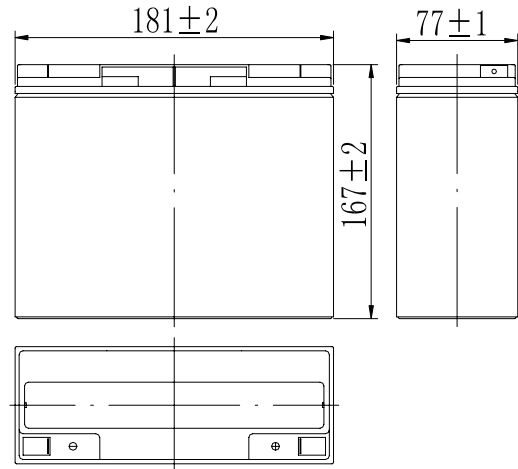


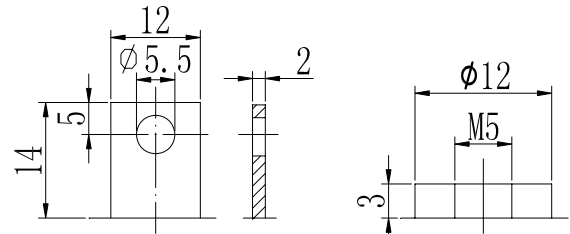
**Specifications**

|   |              |   |
|---|--------------|---|
| Nominal Voltage                           |              | 12 V  |
| Capacity (25°C)                           | 20HR(10.5V)  | 20 Ah   |
|   | 10HR(10.5V)  | 18.6Ah  |
|   | 1HR(9.60V)   | 13.1Ah  |
| Dimension                                 | Length       | 181 ± 2mm (7.13inch)                                  |
|   | Width        | 77 ± 1mm (3.03inch)                                   |
|   | Height       | 167 ± 2mm (6.57inch)                                  |
|   | Total Height | 167 ± 2mm (6.57inch)                                  |
| Approx. Weight                            |              | 5.7kg (12.6lbs) ± 4%                                  |
| Terminal type                             |              | T3/T8   |
| Internal resistance (Fully charged, 25°C) |              | Approx. 12mΩ  |
| Capacity affected by temperature (20HR)   | 40°C         | 102%  |
|   | 25°C         | 100%  |
|   | 0°C          | 85%   |
|   | -15°C        | 65%   |
| Self-discharge (25°C)                     | 3 month      | Remaining Capacity: 91%                               |
|   | 6 month      | Remaining Capacity: 82%                               |
|   | 12 month     | Remaining Capacity: 65%                               |
| Nominal operating temperature             |              | 25°C ± 3°C (77°F ± 5°F)                               |
| Operating temperature 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: -18mV/°C |
| Cyclic charging voltage(25°C)             |              | 14.50 to 14.90V<br>Temperature compensation: -30mV/°C |
| Maximum charging current                  |              | 6A  |
| Terminal material                         |              | Copper  |
| Maximum discharge current                 |              | 300A(5 sec.)  |
| Designed floating life(20°C)              |              | 3~5 years   |

**Dimensions**



**Terminal**



Terminal T3

Terminal T8

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

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

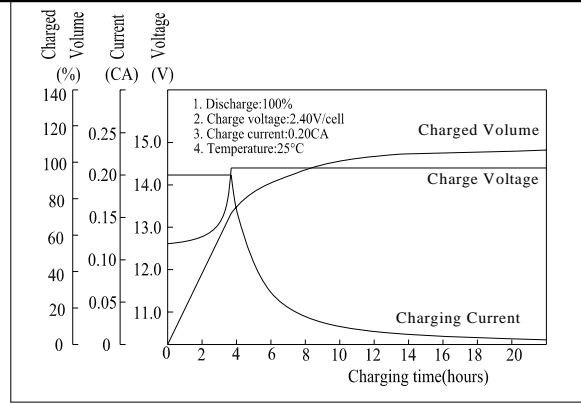
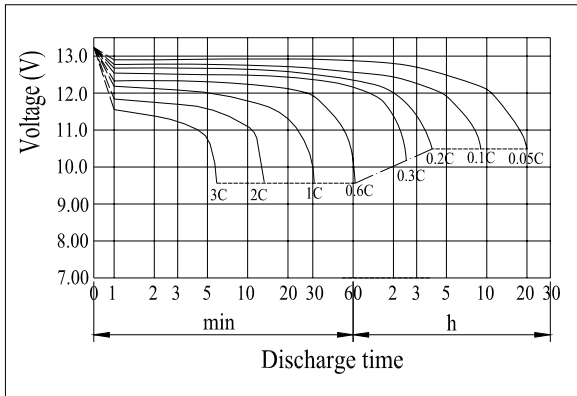
| F.V/TIME | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 49.0  | 38.4  | 21.4  | 13.1  | 7.11 | 5.10 | 4.08 | 3.47 | 2.24 | 1.89 | 1.02 |
| 9.90V    | 47.5  | 37.5  | 21.0  | 12.9  | 7.06 | 5.07 | 4.06 | 3.45 | 2.23 | 1.88 | 1.01 |
| 10.2V    | 45.5  | 36.1  | 20.3  | 12.6  | 7.00 | 5.04 | 4.03 | 3.42 | 2.22 | 1.87 | 1.01 |
| 10.5V    | 43.6  | 34.8  | 19.8  | 12.4  | 6.90 | 5.00 | 4.00 | 3.40 | 2.20 | 1.86 | 1.00 |
| 10.8V    | 41.1  | 33.0  | 19.1  | 12.0  | 6.72 | 4.85 | 3.88 | 3.30 | 2.13 | 1.82 | 0.98 |

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

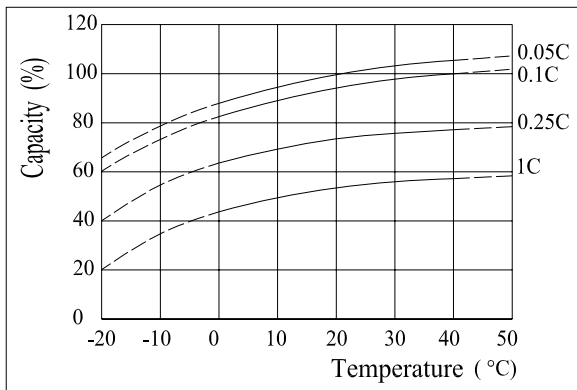
| F.V/TIME | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 552   | 438   | 245   | 152   | 83.1 | 60.6 | 48.6 | 41.4 | 26.9 | 22.7 | 12.2 |
| 9.90V    | 536   | 427   | 240   | 150   | 82.6 | 60.2 | 48.3 | 41.2 | 26.8 | 22.6 | 12.1 |
| 10.2V    | 514   | 411   | 233   | 146   | 81.9 | 59.8 | 48.0 | 40.9 | 26.6 | 22.5 | 12.1 |
| 10.5V    | 492   | 397   | 227   | 143   | 80.7 | 59.4 | 47.6 | 40.6 | 26.4 | 22.3 | 12.0 |
| 10.8V    | 464   | 376   | 219   | 139   | 78.6 | 57.6 | 46.2 | 39.4 | 25.6 | 21.9 | 11.8 |

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

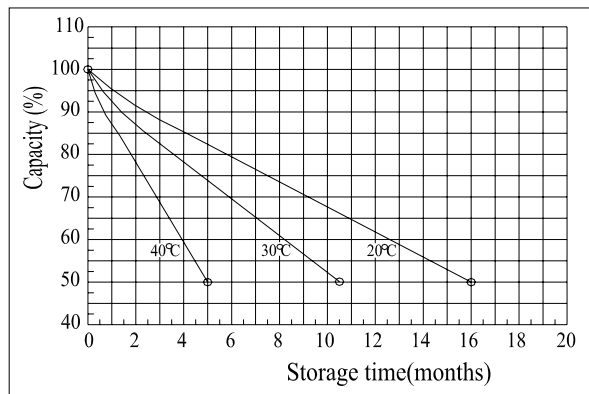
**Discharge Characteristics(25°C)**



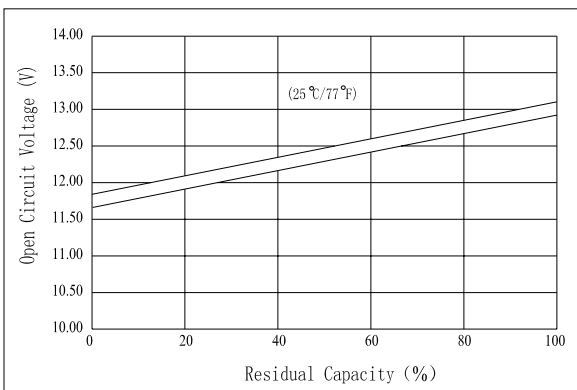
**Effect of Temperature on Capacity**



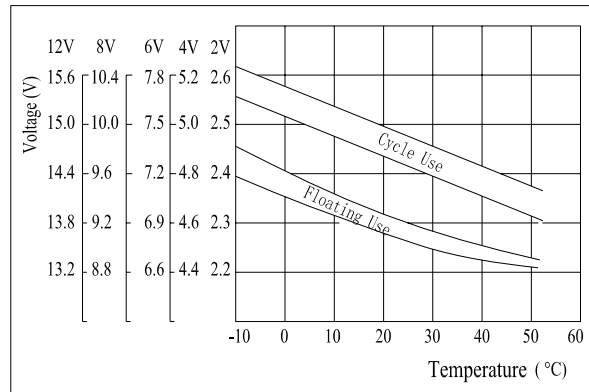
**Self-discharge Characteristics**



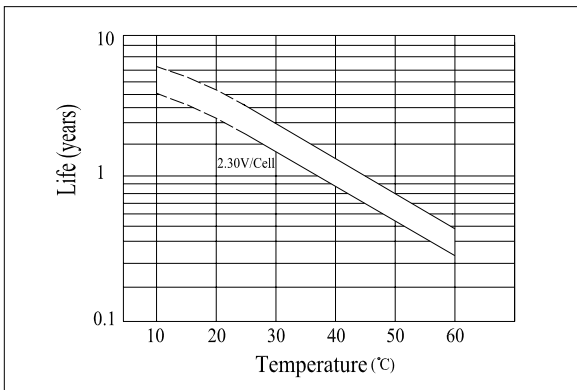
**The Relationship for Open Circuit Voltage and Residual Capacity (25°C)**



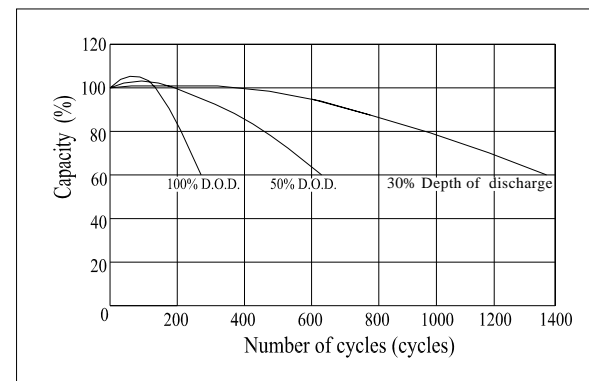
**The Relationship for Charging Voltage and Temperature**



**Floating Life on Temperature**



**Cycle Life on D.O.D(25°C)**



**Charging Characteristics(25°C)**