

### Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

|              |        |    |         |         |
|--------------|--------|----|---------|---------|
| 20 hour rate | (1.1A  | to | 10.50V) | 22Ah    |
| 10 hour rate | (2.09A | to | 10.50V) | 20.9Ah  |
| 5 hour rate  | (3.74A | to | 10.20V) | 18.7Ah  |
| 1 C          | (22A   | to | 9.60V)  | 12.47Ah |
| 3 C          | (66A   | to | 9.60V)  | 8.8Ah   |

#### Weight

Approx. 6.9kg(15.18Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 9 mΩ

#### Maximum Discharge Current for

5 seconds: 330A

#### Charging Methods at 25°C(77°F)

|                            |               |
|----------------------------|---------------|
| Cycle use:                 |               |
| Charging Voltage           | 14.4 to 15.0V |
| Coefficient -5.0mV/°C/cell |               |
| Maximum Charging Current : | 6.6A          |
| Standby use:               |               |
| Float Charging Voltage     | 13.5 to 13.8V |
| Coefficient -3.0mV/°C/cell |               |

#### Operating Temperature Range

|           |            |    |             |
|-----------|------------|----|-------------|
| Charge    | -15°C(5°F) | to | 40°C(104°F) |
| Discharge | -15°C(5°F) | to | 50°C(122°F) |
| Storage   | -15°C(5°F) | to | 40°C(104°F) |

#### Charge Retention (shelf life) at 20°C(68°F)

|         |     |
|---------|-----|
| 1 month | 92% |
| 3 month | 90% |
| 6 month | 80% |

#### Case Material

ABS UL94 HB  
Option: Flammability resistance of (UL94 V-0)

#### Design Life

3-5 Years.

#### Terminal

F8

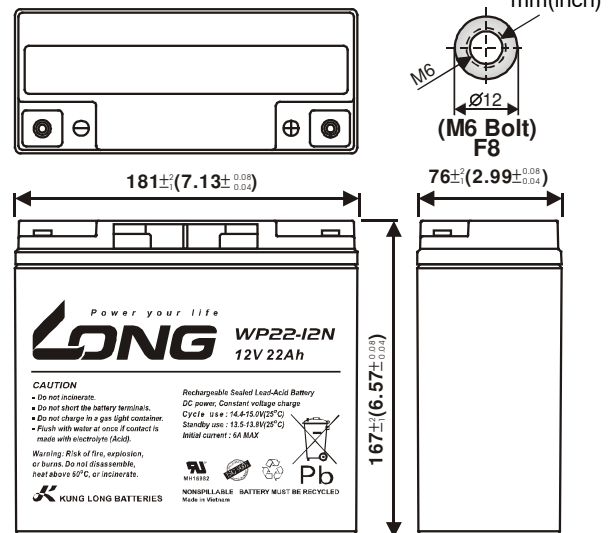


### Dimensions

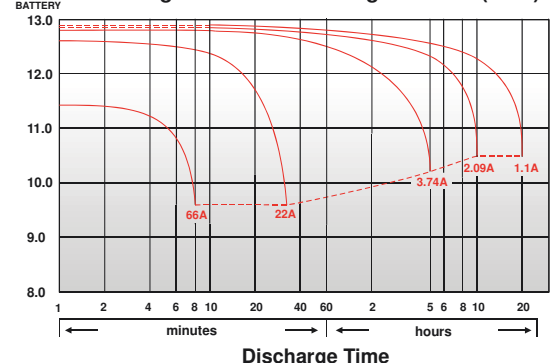
|                     |                          |
|---------------------|--------------------------|
| Length (L)          | 181±2-1 (7.13±0.08-0.04) |
| Width (W)           | 76±2-1 (2.99±0.08-0.04)  |
| Height (H)          | 167±2-1 (6.57±0.08-0.04) |
| Overall Height (HT) | 167±2-1 (6.57±0.08-0.04) |

#### Description of torque value of hard ware for the terminals:

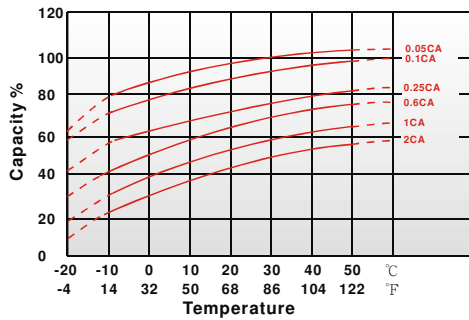
|                                |                       |
|--------------------------------|-----------------------|
| Recommended torque value       | M6:7 N-m (71kgf-cm)   |
| Maximum allowable torque value | M6:10 N-m (102kgf-cm) |



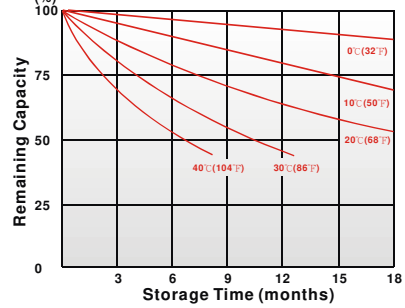
#### Discharge Time VS. Discharge Current (25°C)



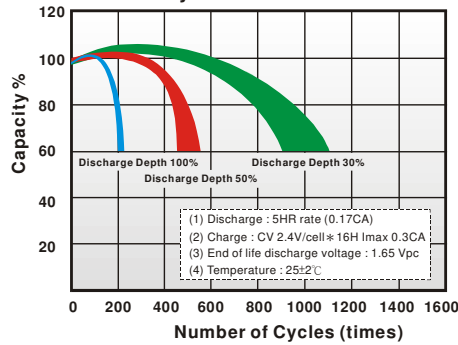
**Effect of Temperature on Capacity 25°C (77°F)**



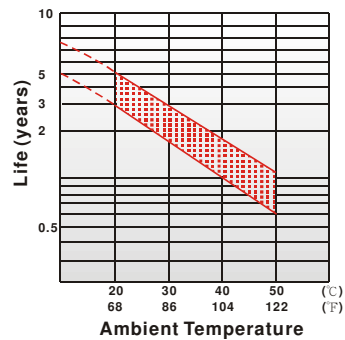
**Capacity Retention Characteristic**



**Cycle Service Life**



**Trickle (or float) Service Life**



### - PERFORMANCE DATA

#### Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

| Time | End Voltage | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| 5    | min         | 136   | 152   | 164   | 171   | 173   | 175   | 177   |
| 10   | min         | 88.3  | 99.7  | 107   | 112   | 113   | 114   | 116   |
| 15   | min         | 67.4  | 75.1  | 80.1  | 83.2  | 84.1  | 85.0  | 85.8  |
| 30   | min         | 39.8  | 43.9  | 46.6  | 48.3  | 48.8  | 49.3  | 49.7  |
| 60   | min         | 25.2  | 26.0  | 26.7  | 27.1  | 27.3  | 27.4  | 27.6  |
| 120  | min         | 15.2  | 15.5  | 15.7  | 15.9  | 16.0  | 16.1  | 16.2  |
| 180  | min         | 10.8  | 11.1  | 11.3  | 11.4  | 11.5  | 11.5  | 11.6  |
| 240  | min         | 8.60  | 8.87  | 9.02  | 9.14  | 9.19  | 9.24  | 9.31  |
| 300  | min         | 7.25  | 7.48  | 7.65  | 7.78  | 7.84  | 7.87  | 7.91  |
| 600  | min         | 4.12  | 4.32  | 4.47  | 4.57  | 4.60  | 4.63  | 4.67  |
| 1200 | min         | 2.20  | 2.28  | 2.35  | 2.41  | 2.42  | 2.44  | 2.45  |

#### - Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

| Time | End Voltage | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| 5    | min         | 74.8  | 83.3  | 90.1  | 97.6  | 99.3  | 102   | 105   |
| 10   | min         | 48.1  | 54.0  | 57.4  | 59.9  | 60.8  | 61.5  | 62.3  |
| 15   | min         | 36.6  | 41.4  | 43.1  | 44.4  | 44.8  | 45.3  | 45.9  |
| 30   | min         | 20.0  | 22.1  | 23.5  | 24.2  | 24.4  | 24.7  | 25.1  |
| 60   | min         | 12.4  | 12.8  | 13.1  | 13.4  | 13.5  | 13.6  | 13.8  |
| 120  | min         | 7.61  | 7.83  | 7.98  | 8.12  | 8.16  | 8.21  | 8.27  |
| 180  | min         | 5.32  | 5.51  | 5.64  | 5.75  | 5.79  | 5.83  | 5.88  |
| 240  | min         | 4.17  | 4.33  | 4.45  | 4.54  | 4.58  | 4.61  | 4.65  |
| 300  | min         | 3.56  | 3.68  | 3.77  | 3.84  | 3.87  | 3.89  | 3.92  |
| 600  | min         | 2.06  | 2.14  | 2.21  | 2.26  | 2.27  | 2.29  | 2.31  |
| 1200 | min         | 1.07  | 1.12  | 1.16  | 1.19  | 1.20  | 1.21  | 1.22  |

All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)

251220-1G