

Specification

| | | |
|----------------------------------|---|-------------------------------|
| Nominal Voltage | 12V | |
| Nominal Capacity(10HR) | 90.0AH | |
| Dimension | Length | 305±3mm (12.01 inches) |
| | Width | 168±2mm (6.61 inches) |
| | Container Height | 207±3mm (8.15 inches) |
| | Total Height (with Terminal) | 213±3mm (8.39 inches) |
| Approx Weight | Approx 27.5 Kg (60.6 lbs) | |
| Terminal | T6 | |
| Container Material | ABS | |
| Rated Capacity | 96.4 AH/4.82A | (20hr, 1.80V/cell, 25°C/77°F) |
| | 90.0 AH/9.00A | (10hr, 1.80V/cell, 25°C/77°F) |
| | 78.5 AH/15.7A | (5hr, 1.75V/cell, 25°C/77°F) |
| | 70.2 AH/23.4A | (3hr, 1.75V/cell, 25°C/77°F) |
| | 55.8 AH/55.8A | (1hr, 1.60V/cell, 25°C/77°F) |
| Max. Discharge Current | 1080A (5s) | |
| Internal Resistance | Approx 5.0mΩ | |
| Operating Temp. Range | Discharge : -15~50°C (5~122°F) | |
| | Charge : 0~40°C (32~104°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 27.0A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C | |
| | Standby Use No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C | |
| Capacity affected by Temperature | 40°C (104°F) | 103% |
| | 25°C (77°F) | 100% |
| | 0°C (32°F) | 86% |
| Self Discharge | LL series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. | |



Applications

- ◆ UPS and EPS
- ◆ Emergency light
- ◆ Railway signal and aircraft signal system
- ◆ Marine and power stations Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply, DC power supply

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

| F.V/Time | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 105.3 | 88.6 | 78.6 | 65.2 | 50.3 | 43.0 | 27.9 | 20.9 | 17.2 | 14.4 | 12.6 | 10.1 | 8.72 | 4.65 |
| 1.80V/cell | 120.5 | 99.4 | 86.9 | 70.8 | 54.2 | 45.4 | 29.9 | 22.5 | 18.2 | 15.3 | 13.4 | 10.7 | 9.00 | 4.82 |
| 1.75V/cell | 136.8 | 112.1 | 96.0 | 76.9 | 59.2 | 49.5 | 31.1 | 23.4 | 18.9 | 15.7 | 13.8 | 11.0 | 9.24 | 4.94 |
| 1.70V/cell | 154.6 | 124.4 | 106.0 | 84.0 | 63.7 | 52.4 | 32.8 | 24.6 | 19.7 | 16.6 | 14.5 | 11.5 | 9.60 | 5.06 |
| 1.65V/cell | 166.0 | 133.1 | 112.7 | 88.6 | 67.4 | 54.2 | 34.0 | 25.6 | 20.5 | 17.1 | 15.0 | 11.9 | 9.87 | 5.22 |
| 1.60V/cell | 182.6 | 145.8 | 122.5 | 94.5 | 70.1 | 55.8 | 34.9 | 26.3 | 20.9 | 17.5 | 15.3 | 12.1 | 10.1 | 5.30 |

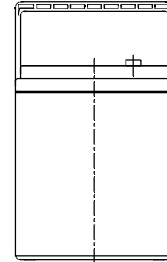
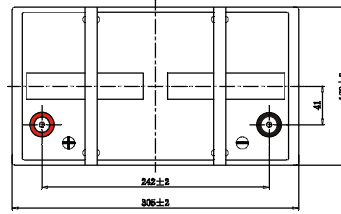
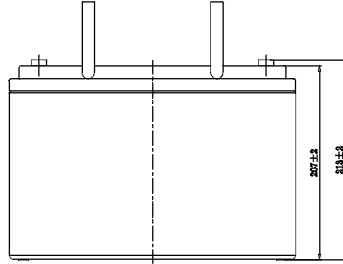
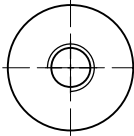
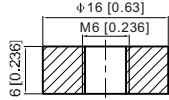
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

| F.V/Time | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 196.6 | 167.0 | 149.7 | 125.5 | 97.7 | 83.8 | 54.7 | 41.2 | 33.9 | 28.6 | 25.1 | 20.2 | 17.4 | 9.31 |
| 1.80V/cell | 222.4 | 185.1 | 163.1 | 134.2 | 104.5 | 88.0 | 58.4 | 44.1 | 35.8 | 30.2 | 26.5 | 21.2 | 18.0 | 9.62 |
| 1.75V/cell | 248.5 | 206.0 | 178.5 | 144.7 | 112.9 | 95.5 | 60.5 | 45.6 | 36.9 | 30.8 | 27.2 | 21.9 | 18.4 | 9.85 |
| 1.70V/cell | 274.4 | 225.4 | 195.6 | 157.1 | 121.2 | 100.8 | 63.6 | 48.0 | 38.5 | 32.5 | 28.5 | 22.8 | 19.1 | 10.1 |
| 1.65V/cell | 292.0 | 239.5 | 206.5 | 164.4 | 127.1 | 103.5 | 65.5 | 49.7 | 39.9 | 33.4 | 29.4 | 23.5 | 19.6 | 10.4 |
| 1.60V/cell | 314.0 | 258.1 | 221.9 | 174.3 | 131.4 | 106.0 | 66.9 | 50.7 | 40.7 | 34.1 | 29.9 | 23.9 | 20.0 | 10.6 |

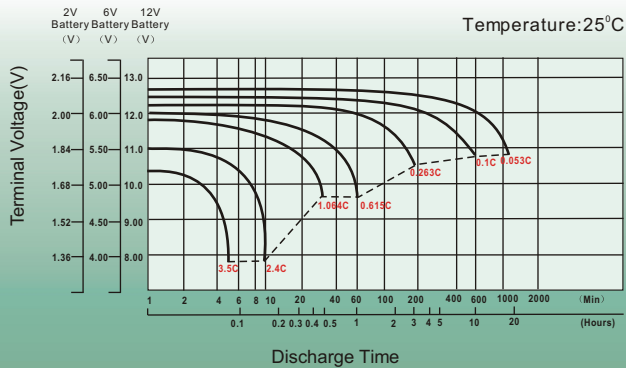
Dimensions

T6 Terminal

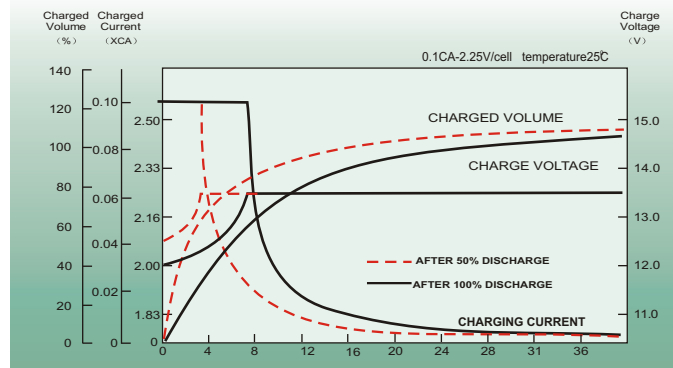
Unit: mm [inches]



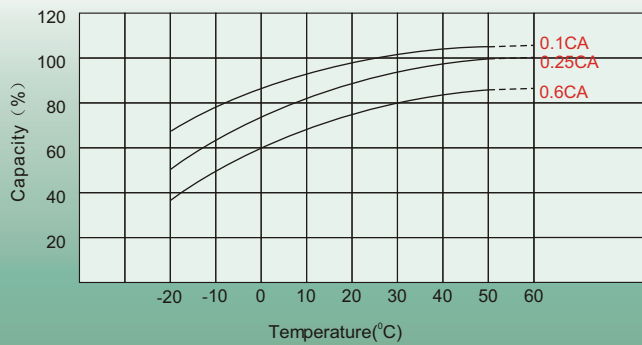
Discharge Characteristics



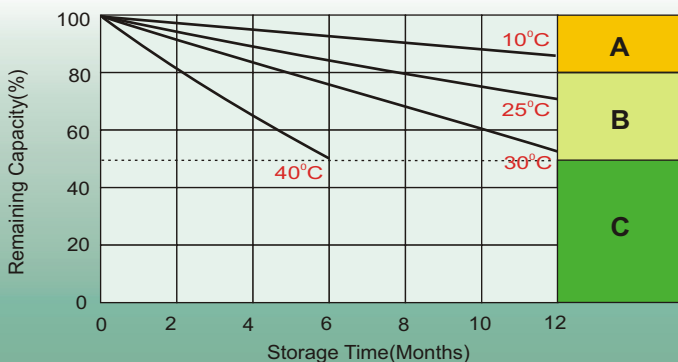
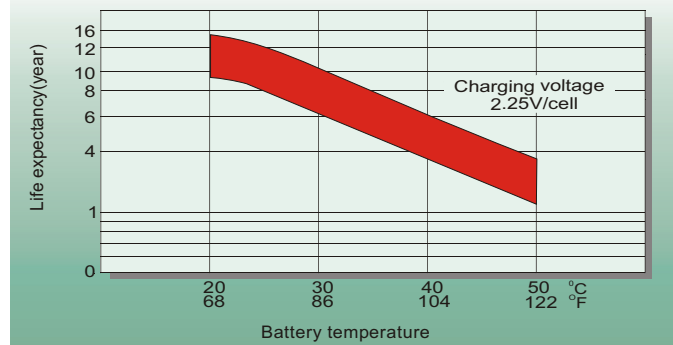
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Term Float Life



Self Discharge Characteristics

- A** No supplementary charge required
(Carry out 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 2.45V/cell.
 3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.