



valve regulated
sealed lead acid type
rechargeable battery

sunbattery®

SB12-18(12V18AH)






Specification

| | |
|----------------------------------|---|
| Nominal Voltage | 12V |
| Nominal Capacity(20HR) | 18.0AH |
| Dimensions | Length 181.5±2mm (7.14 inches) |
| | Width 77±1mm (3.03 inches) |
| | Container Height 167.5±2mm (6.59 inches) |
| | Total Height (with Terminal) 167.5±2mm (6.59 inches) |
| | Approx Weight 5.7kg (12.6lbs) |
| Terminal | T3 |
| Container Material | ABS Standard ABS UL94 HB Optional ABS UL94 V0 |
| Rated Capacity | 18.0 AH/0.90A (20hr, 1.80V/cell, 25°C/77°F) |
| | 16.7 AH/1.67A (10hr, 1.80V/cell, 25°C/77°F) |
| | 15.3 AH/3.05A (5hr, 1.75V/cell, 25°C/77°F) |
| | 13.4 AH/4.46A (3hr, 1.75V/cell, 25°C/77°F) |
| | 11.2 AH/11.2A (1hr, 1.60V/cell, 25°C/77°F) |
| Max. Discharge Current | 270A (5s) |
| Internal Resistance | Approx 16mΩ |
| 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 5.4A. 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 | SUN SB 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. |
| Life expectancy | 10-12 years at 20°C with charge voltage 2.25V/cell. |



Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system

| | | |
|--|---|---|
|  MH45680 |  ETL SEMKO | |
|  ISO14001 |  ISO9001 |  G112049 |

Comform to:
IEC60896-21&22 and/or IEC61427

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 | 34.3 | 22.8 | 18.8 | 16.5 | 13.5 | 10.6 | 8.75 | 5.37 | 4.04 | 3.33 | 2.82 | 2.45 | 1.94 | 1.62 | 0.891 |
| 1.80V/cell | 41.0 | 27.3 | 22.1 | 18.9 | 15.1 | 11.6 | 9.47 | 5.76 | 4.32 | 3.54 | 2.97 | 2.55 | 2.02 | 1.67 | 0.900 |
| 1.75V/cell | 49.2 | 31.3 | 24.6 | 20.9 | 16.2 | 12.4 | 10.0 | 6.00 | 4.46 | 3.62 | 3.05 | 2.63 | 2.07 | 1.72 | 0.909 |
| 1.70V/cell | 57.1 | 35.0 | 27.1 | 22.6 | 17.3 | 13.0 | 10.4 | 6.21 | 4.58 | 3.71 | 3.12 | 2.68 | 2.10 | 1.74 | 0.925 |
| 1.65V/cell | 63.0 | 37.9 | 29.0 | 24.2 | 18.2 | 13.6 | 10.8 | 6.41 | 4.70 | 3.80 | 3.19 | 2.73 | 2.14 | 1.76 | 0.938 |
| 1.60V/cell | 69.5 | 41.0 | 31.2 | 25.6 | 19.2 | 14.1 | 11.2 | 6.57 | 4.82 | 3.90 | 3.25 | 2.80 | 2.18 | 1.79 | 0.943 |

Constant Power Discharge (Watts/cell) 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 | 63.9 | 42.6 | 35.3 | 31.1 | 25.7 | 20.3 | 16.9 | 10.4 | 7.88 | 6.50 | 5.53 | 4.81 | 3.84 | 3.21 | 1.77 |
| 1.80V/cell | 74.2 | 50.1 | 40.9 | 35.4 | 28.5 | 22.1 | 18.2 | 11.1 | 8.37 | 6.88 | 5.79 | 5.00 | 3.97 | 3.31 | 1.78 |
| 1.75V/cell | 88.2 | 56.8 | 45.0 | 38.7 | 30.3 | 23.5 | 19.1 | 11.5 | 8.62 | 7.02 | 5.93 | 5.12 | 4.07 | 3.39 | 1.80 |
| 1.70V/cell | 100.9 | 62.6 | 49.1 | 41.7 | 32.2 | 24.5 | 19.9 | 11.9 | 8.82 | 7.17 | 6.05 | 5.23 | 4.12 | 3.44 | 1.83 |
| 1.65V/cell | 109.7 | 66.8 | 52.0 | 44.2 | 33.6 | 25.4 | 20.4 | 12.2 | 9.03 | 7.33 | 6.16 | 5.31 | 4.18 | 3.47 | 1.85 |
| 1.60V/cell | 118.8 | 71.3 | 54.9 | 45.9 | 34.9 | 26.2 | 21.1 | 12.5 | 9.20 | 7.49 | 6.28 | 5.42 | 4.26 | 3.53 | 1.86 |

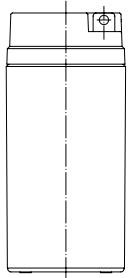
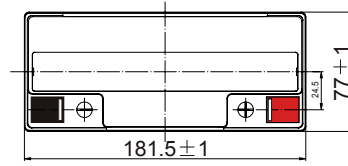
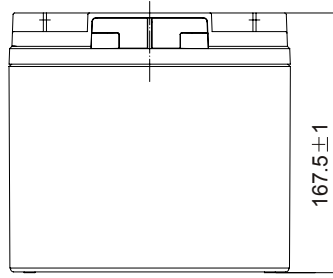
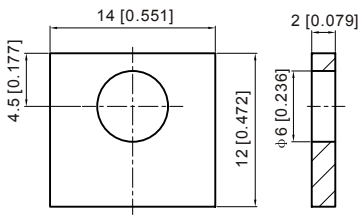


Specifications subject to change without notice. Updated: 13.02.2020

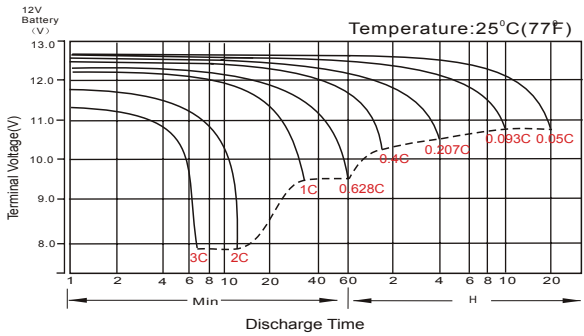
Dimensions

T3 Terminal

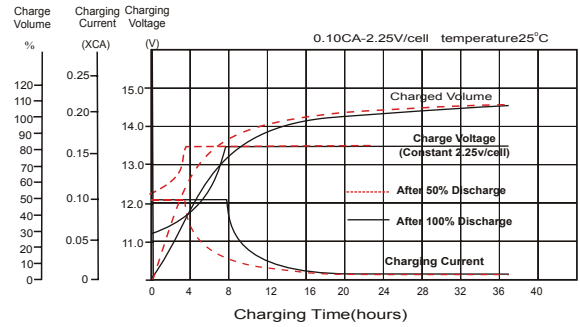
Unit: mm [inches]



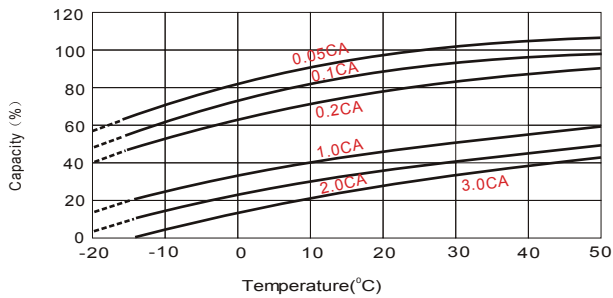
Discharge Characteristics



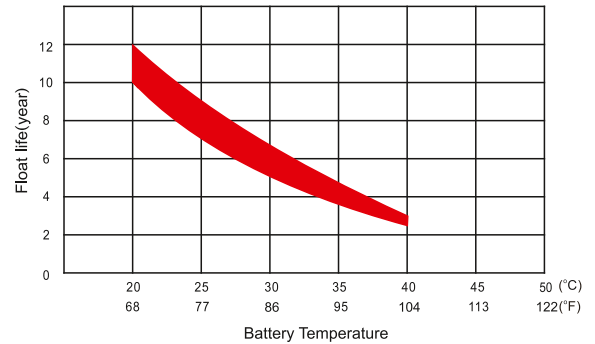
Float Charging Characteristics



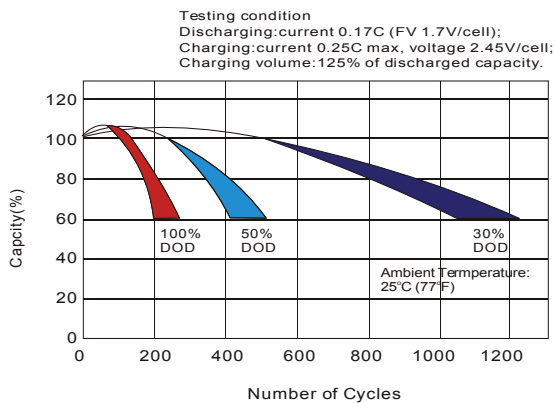
Temperature Effects in Relation to Battery Capacity



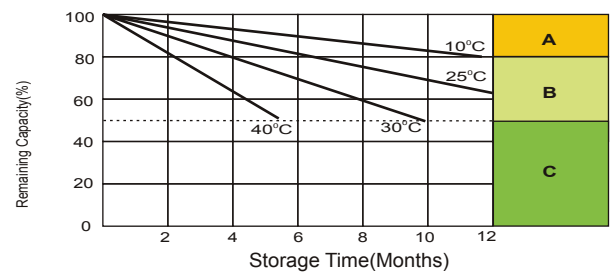
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



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.