



valve regulated
sealed lead acid type
rechargeable battery

sunbattery®

MB12-7HR(12V7.0AH)

Specification

| | |
|----------------------------------|---|
| Nominal Voltage | 12V |
| Watts(15min Rate) | 28.4 Watts at 1.67V/cell |
| Dimension | Length 151±2mm (5.95 inches) |
| | Width 65±1mm (2.56 inches) |
| | Container Height 93.5±1mm (3.68 inches) |
| | Total Height (with Terminal) 99±1mm (3.90 inches) |
| Approx Weight | Approx 2.68kg(14.77lbs) |
| Terminal | T2 |
| Container Material | ABS |
| Rated Capacity | 7.23 AH/0.723A (10hr, 1.80V/cell, 25°C/77°F) |
| | 7.00 AH/0.875A (8hr, 1.80V/cell, 25°C/77°F) |
| | 6.45 AH/1.29A (5hr, 1.75V/cell, 25°C/77°F) |
| | 5.67 AH/1.89A (3hr, 1.75V/cell, 25°C/77°F) |
| | 5.41 AH/5.41A (1hr, 1.60V/cell, 25°C/77°F) |
| Max. Discharge Current | 105A (5s) |
| Internal Resistance | Approx 20mΩ |
| 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 2.1A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C |
| | No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C |
| Standby Use | 40°C (104°F) 103% |
| Capacity affected by Temperature | 25°C (77°F) 100% |
| | 0°C (32°F) 86% |
| | MB 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. |
| Self Discharge | |



Applications

- ◆ UPS (High rate)
- ◆ High power backup supply
- ◆ Emergency power supply
- ◆ Starting system
- ◆ Power tools
- ◆ Emergency lighting
- ◆ Electric starting

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| | | |

Conform 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 | 25.9 | 16.7 | 13.1 | 10.9 | 8.11 | 5.88 | 4.63 | 2.58 | 1.83 | 1.45 | 1.21 | 1.05 | 0.841 | 0.704 | 0.382 |
| 1.80V/cell | 29.1 | 18.2 | 14.1 | 11.68 | 8.58 | 6.18 | 4.84 | 2.66 | 1.89 | 1.49 | 1.25 | 1.09 | 0.875 | 0.723 | 0.390 |
| 1.75V/cell | 31.1 | 19.4 | 15.0 | 12.3 | 8.92 | 6.43 | 5.09 | 2.75 | 1.95 | 1.55 | 1.29 | 1.12 | 0.897 | 0.743 | 0.398 |
| 1.70V/cell | 33.0 | 20.4 | 15.7 | 12.8 | 9.27 | 6.61 | 5.22 | 2.82 | 2.01 | 1.59 | 1.33 | 1.15 | 0.913 | 0.757 | 0.403 |
| 1.67V/cell | 34.6 | 21.2 | 16.2 | 13.2 | 9.52 | 6.78 | 5.31 | 2.88 | 2.05 | 1.62 | 1.35 | 1.17 | 0.925 | 0.765 | 0.406 |
| 1.60V/cell | 35.5 | 21.7 | 16.6 | 13.4 | 9.67 | 6.90 | 5.41 | 2.92 | 2.07 | 1.64 | 1.37 | 1.18 | 0.933 | 0.771 | 0.408 |

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 | 48.3 | 31.3 | 24.6 | 20.5 | 15.4 | 11.3 | 8.93 | 5.01 | 3.58 | 2.84 | 2.38 | 2.07 | 1.66 | 1.39 | 0.757 |
| 1.80V/cell | 52.7 | 33.3 | 26.1 | 21.8 | 16.2 | 11.8 | 9.28 | 5.13 | 3.67 | 2.91 | 2.44 | 2.13 | 1.72 | 1.43 | 0.771 |
| 1.75V/cell | 55.6 | 35.2 | 27.5 | 22.9 | 16.7 | 12.2 | 9.72 | 5.28 | 3.77 | 3.00 | 2.51 | 2.18 | 1.76 | 1.47 | 0.786 |
| 1.70V/cell | 58.4 | 36.5 | 28.5 | 23.5 | 17.2 | 12.4 | 9.94 | 5.42 | 3.87 | 3.07 | 2.57 | 2.23 | 1.79 | 1.49 | 0.795 |
| 1.67V/cell | 60.3 | 37.3 | 29.0 | 24.0 | 17.6 | 12.7 | 10.1 | 5.50 | 3.93 | 3.12 | 2.61 | 2.26 | 1.81 | 1.51 | 0.801 |
| 1.60V/cell | 60.6 | 37.6 | 29.2 | 24.0 | 17.6 | 12.8 | 10.2 | 5.56 | 3.96 | 3.15 | 2.64 | 2.29 | 1.82 | 1.52 | 0.803 |

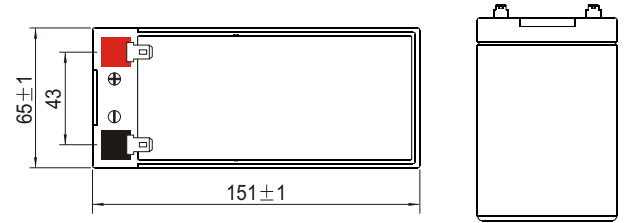
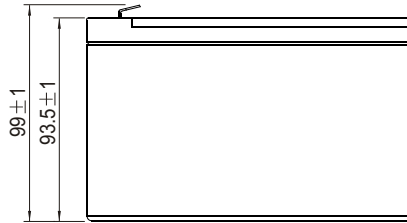
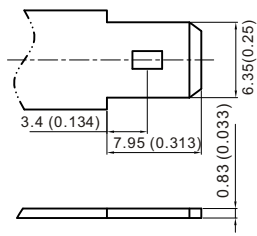
Specifications subject to change without notice.



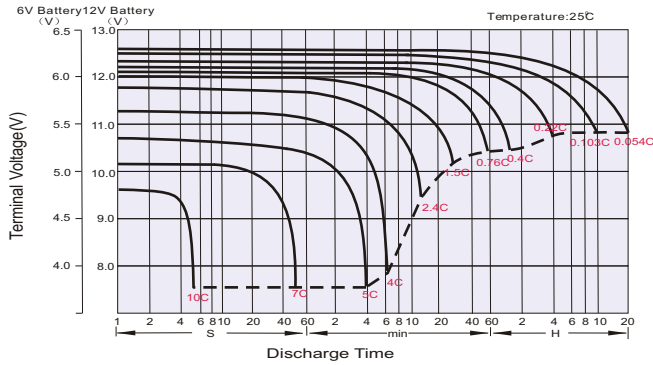
Dimensions

T2 Terminal

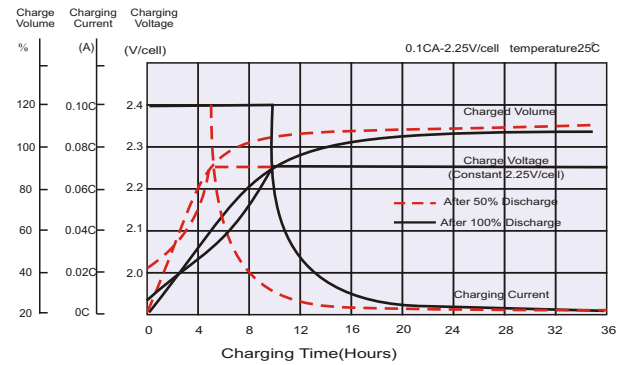
Unit: mm [inches]



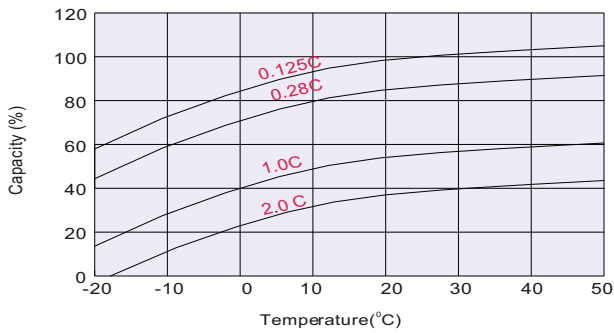
Discharge Characteristics



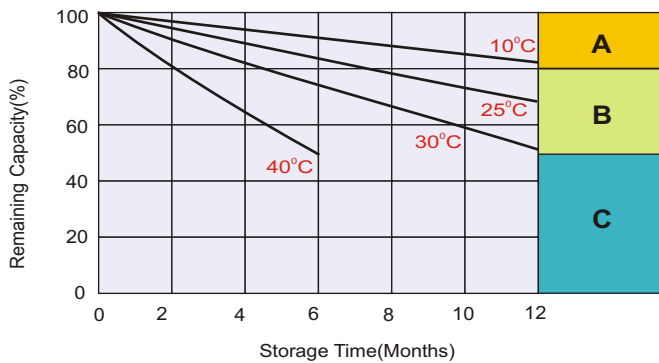
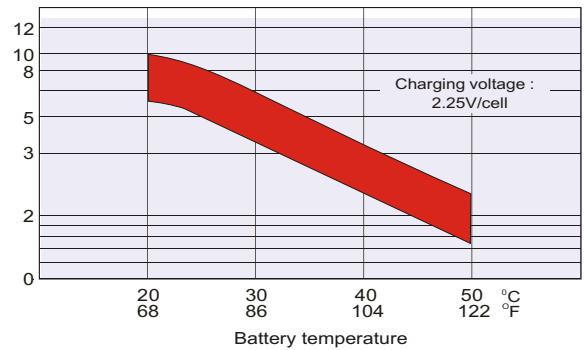
Float Charging Characteristics



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.