



valve regulated  
sealed lead acid type  
rechargeable battery

 **sunbattery**<sup>®</sup>

# MB12-0.8(12V0.8AH)




## Specification

|                                  |   |                               |
|----------------------------------|---|-------------------------------|
| Nominal Voltage                  | 12V   |                               |
| Nominal Capacity(20HR)           | 0.8AH   |                               |
| Dimensions                       | Length  | 96 ± 1mm (3.78 inches)        |
|                                  | Width   | 25 ± 1mm (0.98 inches)        |
|                                  | Container Height  | 62 ± 1mm (2.44 inches)        |
|                                  | Total Height (with Terminal)  | 62 ± 1mm (2.44 inches)        |
| Approx Weight                    | Approx 0.35 kg (0.77lbs)  |                               |
| Terminal                         | /   |                               |
| Container Material               | ABS   |                               |
| Rated Capacity                   | 0.80 AH/0.040A  | (20hr, 1.80V/cell, 25°C/77°F) |
|                                  | 0.74 AH/0.074A  | (10hr, 1.80V/cell, 25°C/77°F) |
|                                  | 0.67 AH/0.134A  | (5hr, 1.75V/cell, 25°C/77°F)  |
|                                  | 0.588 AH/0.196A   | (3hr, 1.75V/cell, 25°C/77°F)  |
|                                  | 0.486 AH/0.486A   | (1hr, 1.60V/cell, 25°C/77°F)  |
| Max. Discharge Current           | 12A (5s)  |                               |
| Internal Resistance              | Approx 150mΩ  |                               |
| 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 0.24A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C   |                               |
|                                  | Standby Use<br>No limit on Initial Charging Current Voltage<br>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                  | 3-5 years at 25°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

|  |   |  |
|--|---|--|
| <br>MH45680 |  ETL SEMKO |  |
|  ISO14001   |  ISO9001   |  |

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 | 1.54 | 1.07  | 0.883 | 0.766 | 0.614 | 0.473 | 0.386 | 0.236 | 0.180 | 0.148 | 0.125 | 0.109 | 0.086 | 0.072 | 0.040 |
| 1.80V/cell | 1.89 | 1.28  | 1.02  | 0.866 | 0.680 | 0.515 | 0.416 | 0.251 | 0.189 | 0.155 | 0.131 | 0.113 | 0.090 | 0.074 | 0.040 |
| 1.75V/cell | 2.24 | 1.44  | 1.13  | 0.943 | 0.726 | 0.547 | 0.438 | 0.262 | 0.196 | 0.160 | 0.134 | 0.116 | 0.092 | 0.076 | 0.040 |
| 1.70V/cell | 2.54 | 1.59  | 1.22  | 1.01  | 0.763 | 0.569 | 0.456 | 0.272 | 0.202 | 0.164 | 0.138 | 0.119 | 0.093 | 0.077 | 0.041 |
| 1.65V/cell | 2.80 | 1.71  | 1.29  | 1.06  | 0.795 | 0.591 | 0.475 | 0.280 | 0.207 | 0.168 | 0.141 | 0.121 | 0.095 | 0.078 | 0.042 |
| 1.60V/cell | 2.94 | 1.79  | 1.35  | 1.10  | 0.818 | 0.604 | 0.486 | 0.289 | 0.212 | 0.172 | 0.144 | 0.124 | 0.097 | 0.080 | 0.042 |

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

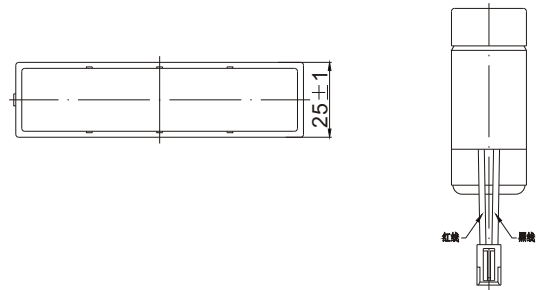
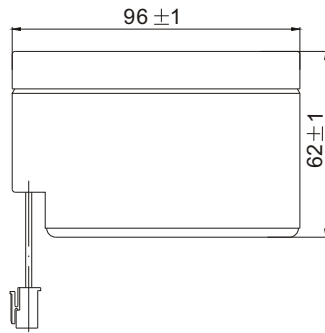
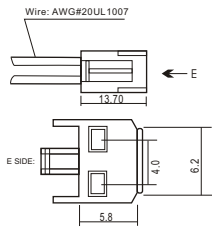
| F.V/Time   | 5min | 10min | 15min | 20min | 30min | 45min | 1h    | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   |
|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.85V/cell | 2.90 | 2.04  | 1.70  | 1.48  | 1.20  | 0.927 | 0.761 | 0.467 | 0.357 | 0.295 | 0.251 | 0.218 | 0.174 | 0.145 | 0.080 |
| 1.80V/cell | 3.52 | 2.41  | 1.95  | 1.67  | 1.32  | 1.00  | 0.815 | 0.494 | 0.374 | 0.308 | 0.260 | 0.226 | 0.179 | 0.149 | 0.080 |
| 1.75V/cell | 4.12 | 2.70  | 2.13  | 1.80  | 1.40  | 1.06  | 0.853 | 0.512 | 0.384 | 0.316 | 0.266 | 0.230 | 0.183 | 0.151 | 0.081 |
| 1.70V/cell | 4.62 | 2.94  | 2.29  | 1.92  | 1.46  | 1.09  | 0.884 | 0.530 | 0.395 | 0.322 | 0.271 | 0.235 | 0.184 | 0.153 | 0.082 |
| 1.65V/cell | 5.03 | 3.13  | 2.39  | 1.99  | 1.51  | 1.13  | 0.915 | 0.543 | 0.403 | 0.327 | 0.275 | 0.238 | 0.187 | 0.154 | 0.082 |
| 1.60V/cell | 5.19 | 3.21  | 2.46  | 2.03  | 1.53  | 1.14  | 0.928 | 0.556 | 0.410 | 0.333 | 0.279 | 0.241 | 0.189 | 0.156 | 0.082 |



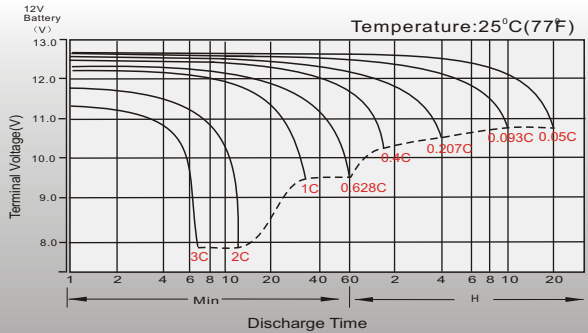
Specifications subject to change without notice.

# Dimensions

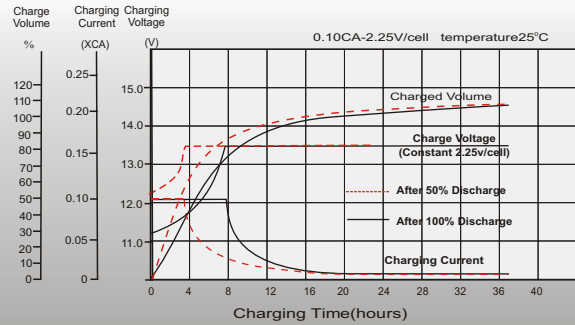
## Terminal Unit: mm [inches]



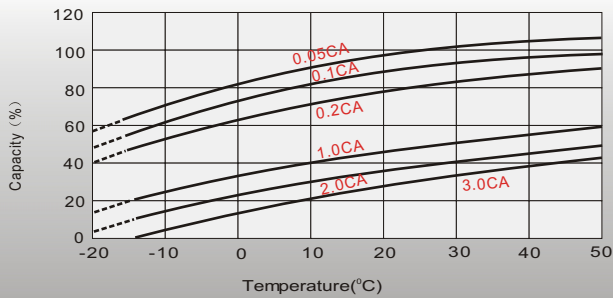
## Discharge Characteristics



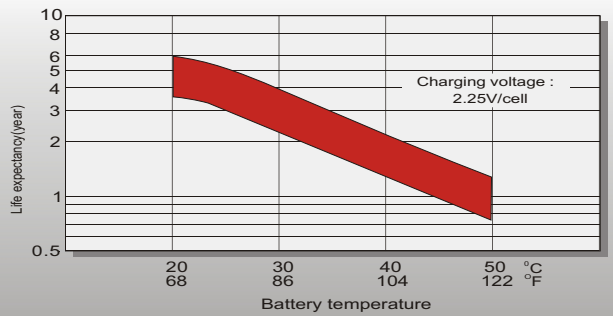
## Float Charging Characteristics



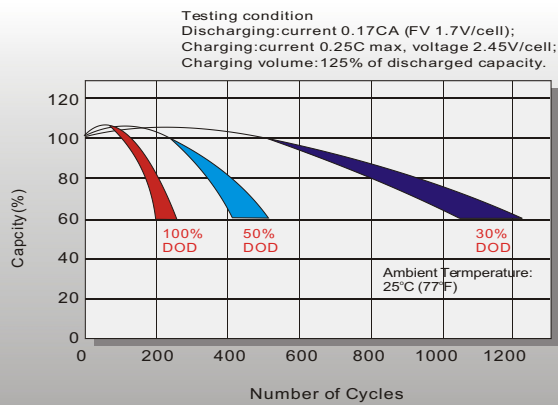
## Temperature Effects in Relation to Battery Capacity



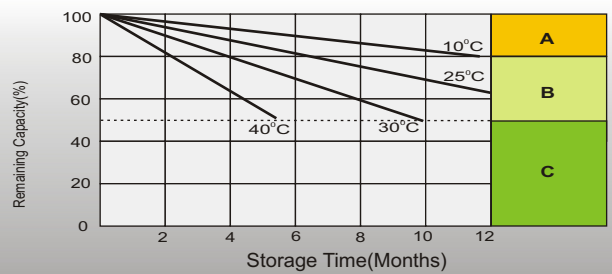
## Effect of Temperature on Long Term Float Life



## 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.