

MHB MS Series--Small-size batteries

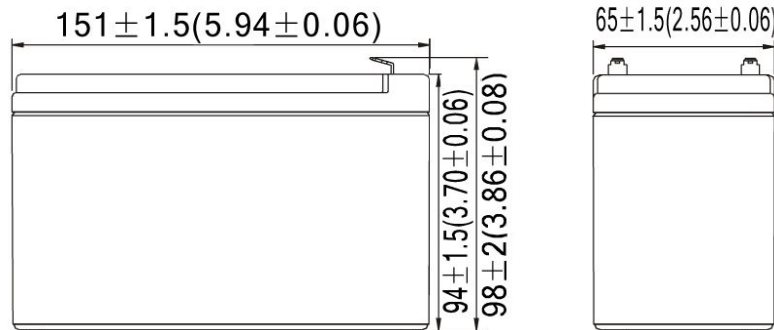
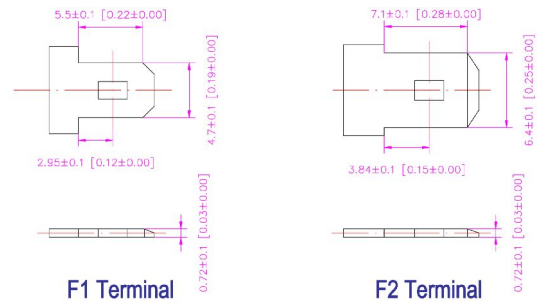
- 100% before shipment testing, stable and reliable long-term quality
- patented grid alloy formula and updated manufacturing technique
- completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use: More than 260 cycles at 100% DOD
- Floating & standby use: 3-5 years

Application:

- Alarm System
- Cable Television
- Communication Equipment
- Emergency Power System
- Security System
- Medical Equipment
- UPS
- Power tools
- Control Equipment
- Toys

Construction:

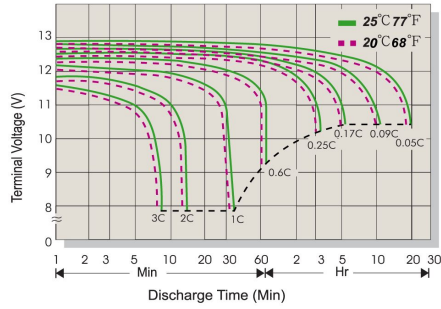
- ComponentRaw material
- PositiveLead dioxide
- NegativeLead
- ContainerABS
- CoverABS
- SealantEpoxy
- Safety valve Rubber
- TerminalCopper
- SeparatorFiber glass
- ElectrolyteSulfuric acid



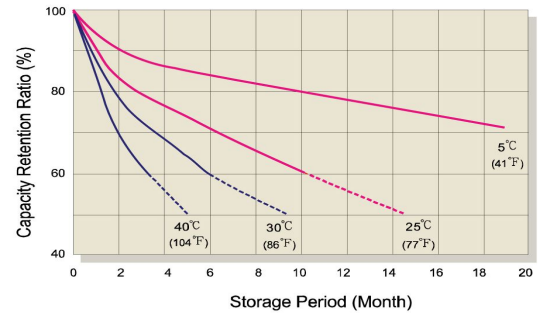
Speification:

| Battery Model | MS 9-12A 12V 9.0AH | | | |
|----------------------------------|---|--------------------|-----------------------|-------------------|
| Designed Floating Life | 3~5 Years | | | |
| Capacity (25°C) | 20HR(0.435A,10.5V) | 10HR(0.841A,10.5V) | 5HR(1.653A,10.5V) | 1HR(5.646A,10.5V) |
| | 8.70 AH | 8.41 AH | 8.27 AH | 5.65 AH |
| Dimensions | Length | Width | Height | Total Height |
| | 151 mm | 65 mm | 94 mm | 98 mm |
| Approx. Weight | 2.68Kg ± 3% | | | |
| Internal Resistance | Full charged at 25°C : ≤23.00 mΩ | | | |
| Self Discharge | 2% of capacity declined per month at (25°C) | | | |
| Capacity Affected by Temp.(20HR) | 40°C | 25°C | 0°C | -15°C |
| | 102% | 100% | 85% | 65% |
| Charge Voltage(25oC) | Cycle use | | Float use | |
| | 14.4-15.0V(-30mV/°C), max. Current: 2.70A | | 13.5-13.8V (-20mV/°C) | |

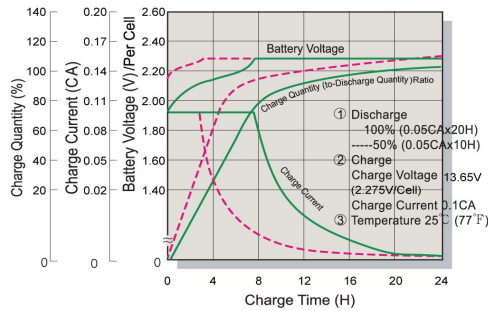
Terminal Voltage (V) and Discharge Time



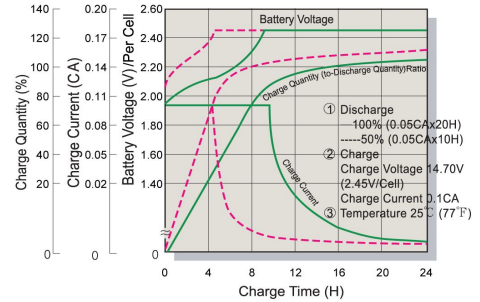
Capacity Retention Characteristic



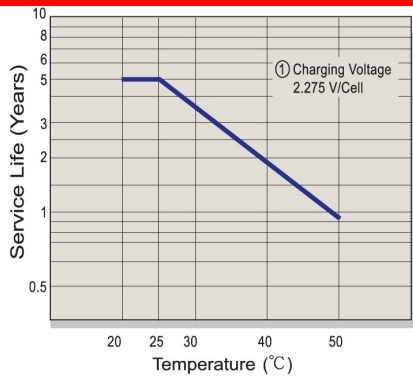
Battery Voltage and Charge Time for Standby Use



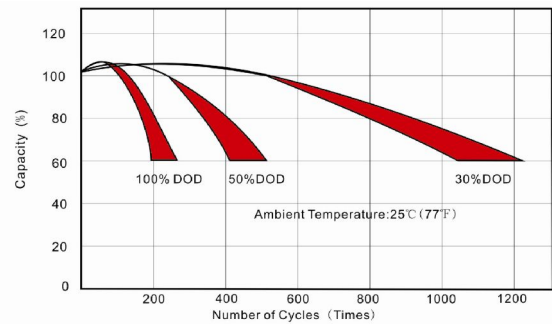
Battery Voltage and Charge Time for Cycle Use



Tickle(or Float) Service Life



Cycle Service Life



Constant Current Discharge(CC,Unit:A) at 25°C(77°F)

| F.V/Time | 5Min | 10Min | 15Min | 30Min | 1Hr | 2Hr | 3Hr | 4Hr | 5Hr | 6Hr | 10Hr | 20Hr |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.80V/Cell | 28.30 | 19.64 | 16.14 | 9.67 | 5.542 | 2.974 | 2.455 | 1.876 | 1.622 | 1.296 | 0.826 | 0.427 |
| 1.75V/Cell | 28.83 | 20.01 | 16.44 | 9.85 | 5.646 | 3.030 | 2.501 | 1.911 | 1.653 | 1.320 | 0.841 | 0.435 |
| 1.70V/Cell | 29.69 | 20.61 | 16.93 | 10.15 | 5.816 | 3.121 | 2.576 | 1.968 | 1.702 | 1.360 | 0.867 | 0.448 |
| 1.67V/Cell | 30.84 | 21.41 | 17.59 | 10.54 | 6.042 | 3.242 | 2.676 | 2.044 | 1.768 | 1.412 | 0.900 | 0.465 |
| 1.60V/Cell | 32.57 | 22.61 | 18.57 | 11.13 | 6.380 | 3.424 | 2.826 | 2.159 | 1.868 | 1.492 | 0.951 | 0.492 |

Constant Power Discharge (CP,Unit:W) at 25°C(77°F)

| F.V/Time | 5Min | 10Min | 15Min | 30Min | 1Hr | 2Hr | 3Hr | 4Hr | 5Hr | 6Hr | 10Hr | 20Hr |
|------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.80V/Cell | 55.18 | 38.30 | 31.46 | 18.86 | 10.81 | 5.80 | 4.79 | 3.66 | 3.16 | 2.53 | 1.61 | 0.83 |
| 1.75V/Cell | 56.21 | 39.02 | 32.05 | 19.21 | 11.01 | 5.91 | 4.88 | 3.73 | 3.22 | 2.57 | 1.64 | 0.85 |
| 1.70V/Cell | 57.90 | 40.19 | 33.02 | 19.79 | 11.34 | 6.09 | 5.02 | 3.84 | 3.32 | 2.65 | 1.69 | 0.87 |
| 1.67V/Cell | 60.15 | 41.75 | 34.30 | 20.56 | 11.78 | 6.32 | 5.22 | 3.99 | 3.45 | 2.75 | 1.76 | 0.91 |
| 1.60V/Cell | 63.52 | 44.09 | 36.22 | 21.71 | 12.44 | 6.68 | 5.51 | 4.21 | 3.64 | 2.91 | 1.85 | 0.96 |