

### MS Series SLA Battery

#### MHB MS Series--Small-size batteries

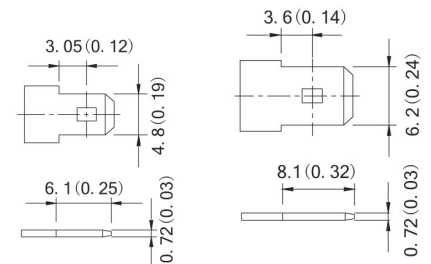
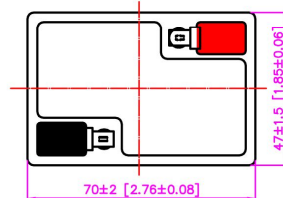
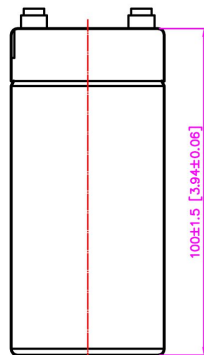
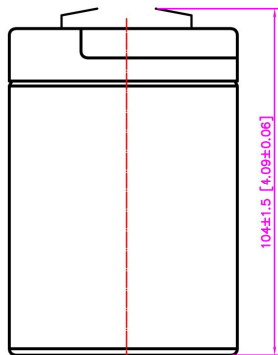
- 100% before shipment testing, stable and reliable long-term quality
- patented grid alloy formula and updated manufacturing technique
- completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use: More than 260 cycles at 100% DOD
- Floating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

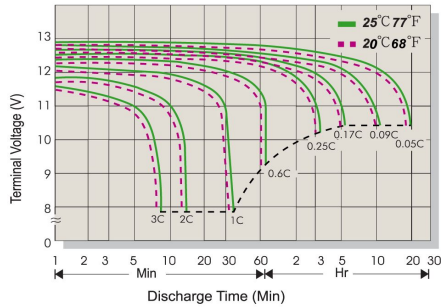
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy
- Safety valve .... Rubber
- Terminal .....Copper
- Separator .....Fiber glass
- Electrolyte .....Sulfuric acid



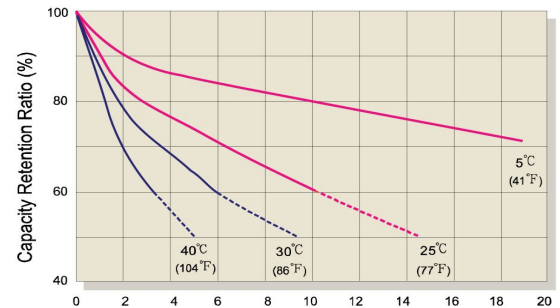
#### Specification.

Battery Model	MS 4.5-6 6V4.5AH			
Designed Floating Life	3~5 Years			
Capacity (25°C)	20HR(0.225A,5.25V)	10HR(0.433A,5.25V)	5HR(0.81A,5.25V)	1HR(2.70A,5.25V)
	4.50AH	4.33AH	4.05AH	2.70AH
Dimensions	Length	Width	Height	Total Height
	70mm (2.76inch)	47mm (1.85inch)	100mm (3.94inch)	104mm (4.09inch)
Approx. Weight	0.74Kg (1.63 lbs) ± 5%			
Internal Resistance	Full charged at 25°C : ≤16. 8mΩ			
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(25°C)	Cycle use		Float use	
	7.20-7.50V(-15mV/°C), max. Current: 1.35A		6.75-6.90V (-10mV/°C)	

### Terminal Voltage (V) and Discharge Time



### Capacity Retention Characteristic



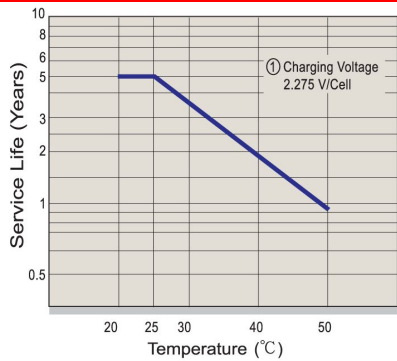
### Battery Voltage and Charge Time for Standby Use



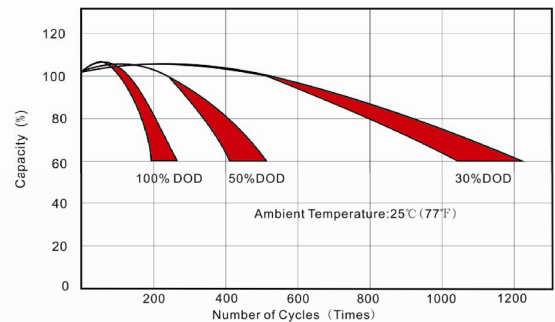
### Battery Voltage and Charge Time for Cycle Use



### 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
1.85V/Cell	12.84	9.60	7.08	4.47	2.60	1.49	1.14	0.909	0.780	0.636	0.417	0.217
1.80V/Cell	13.09	9.78	7.22	4.56	2.65	1.52	1.16	0.926	0.795	0.648	0.425	0.221
1.75V/Cell	13.34	9.97	7.35	4.65	2.70	1.54	1.18	0.943	0.810	0.660	0.433	0.225
1.70V/Cell	14.54	10.57	7.79	4.83	2.74	1.57	1.20	0.960	0.824	0.672	0.441	0.229
1.67V/Cell	16.00	11.46	8.45	5.10	2.77	1.59	1.21	0.970	0.833	0.679	0.445	0.231
1.60V/Cell	17.34	12.06	8.90	5.32	2.80	1.61	1.23	0.981	0.842	0.686	0.450	0.234

### 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
1.85V/Cell	25.05	18.72	13.81	8.73	5.06	2.90	2.22	1.77	1.52	1.24	0.81	0.42
1.80V/Cell	25.53	19.08	14.07	8.89	5.16	2.96	2.26	1.81	1.55	1.26	0.83	0.43
1.75V/Cell	26.00	19.44	14.34	9.06	5.26	3.01	2.30	1.84	1.58	1.29	0.84	0.44
1.70V/Cell	28.34	20.60	15.20	9.42	5.35	3.07	2.34	1.87	1.61	1.31	0.86	0.45
1.67V/Cell	31.20	22.35	16.49	9.95	5.41	3.10	2.37	1.89	1.62	1.32	0.87	0.45
1.60V/Cell	33.81	23.52	17.35	10.37	5.46	3.13	2.39	1.91	1.64	1.34	0.88	0.46