

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

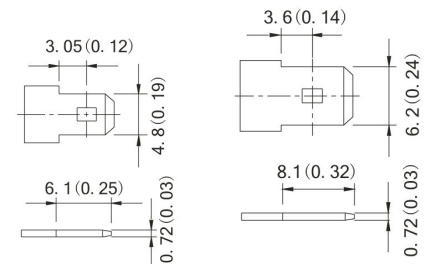
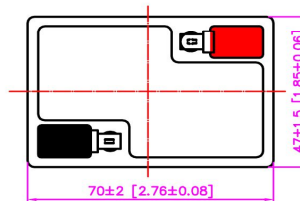
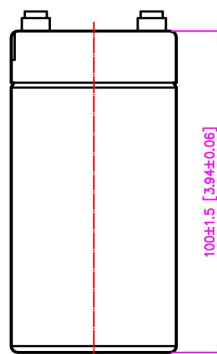
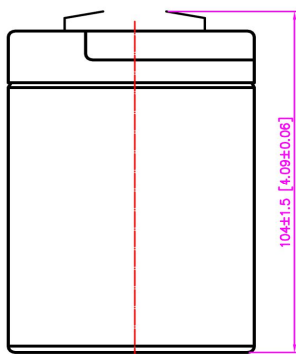
- 100% before shipment testing, stable and reliable long-term quality
- patented grid alloy formula and updated manufacturing technique
- completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use: More than 260 cycles at 100% DOD
- Floating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

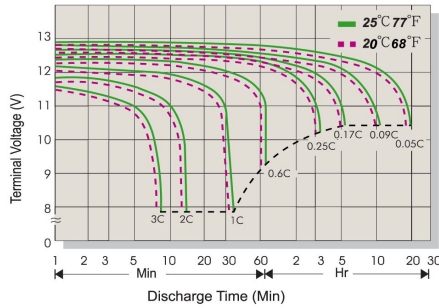
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy
- Safety valve .... Rubber
- Terminal .....Copper
- Separator .....Fiber glass
- Electrolyte .....Sulfuric acid



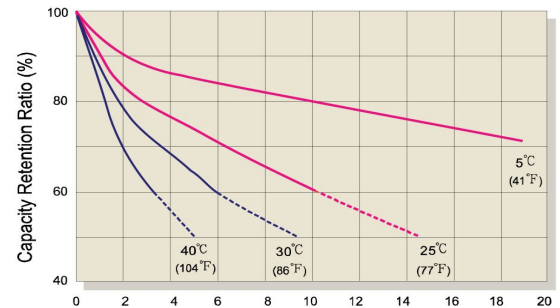
#### Speification:

Battery Model	MS 4.5-6A 6V4.5AH			
Designed Floating Life	3~5 Years			
Capacity (25°C)	20HR(0.225A,5.25V)	10HR(0.435A,5.25V)	5HR(0.855A,5.25V)	1HR(2.92A,5.25V)
	4.50AH	4.35AH	4.27AH	2.92AH
Dimensions	Length	Width	Height	Total Height
	70mm (2.76inch)	47mm (1.85inch)	100mm (3.94inch)	104mm (4.09inch)
Approx. Weight	0.76Kg (1.68 lbs) ±5%			
Internal Resistance	Full charged at 25°C : ≤17. 5mΩ			
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



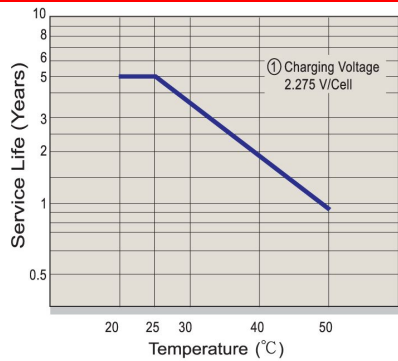
### Battery Voltage and Charge Time for Standby Use



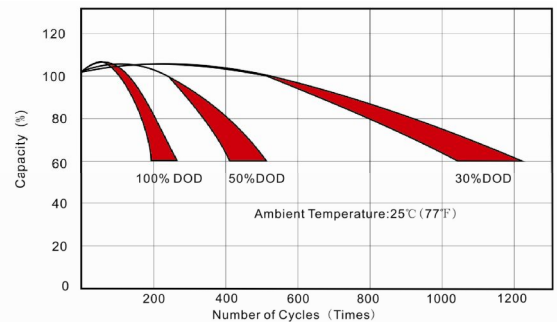
### Battery Voltage and Charge Time for Cycle Use



### 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	13.71	10.25	7.51	4.91	2.81	1.51	1.25	0.952	0.823	0.658	0.419	0.217
1.80V/Cell	13.97	10.45	7.66	5.00	2.87	1.54	1.27	0.970	0.839	0.670	0.427	0.221
1.75V/Cell	14.24	10.64	7.80	5.10	2.92	1.57	1.29	0.988	0.855	0.683	0.435	0.225
1.70V/Cell	15.52	11.28	8.27	5.30	2.97	1.59	1.32	1.006	0.870	0.695	0.443	0.229
1.67V/Cell	17.08	12.24	8.97	5.59	3.00	1.61	1.33	1.016	0.879	0.702	0.448	0.231
1.60V/Cell	18.51	12.88	9.44	5.83	3.04	1.63	1.34	1.027	0.889	0.710	0.452	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	26.74	19.99	14.65	9.57	5.49	2.94	2.43	1.86	1.61	1.28	0.82	0.42
1.80V/Cell	27.25	20.37	14.93	9.75	5.59	3.00	2.48	1.89	1.64	1.31	0.83	0.43
1.75V/Cell	27.76	20.75	15.21	9.94	5.69	3.06	2.52	1.93	1.67	1.33	0.85	0.44
1.70V/Cell	30.26	22.00	16.13	10.33	5.80	3.11	2.57	1.96	1.70	1.35	0.86	0.45
1.67V/Cell	33.31	23.87	17.50	10.91	5.86	3.14	2.59	1.98	1.71	1.37	0.87	0.45
1.60V/Cell	36.09	25.11	18.41	11.38	5.92	3.18	2.62	2.00	1.73	1.38	0.88	0.46