

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

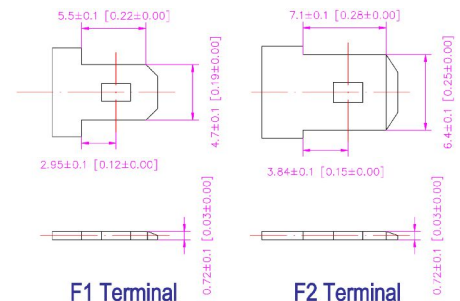
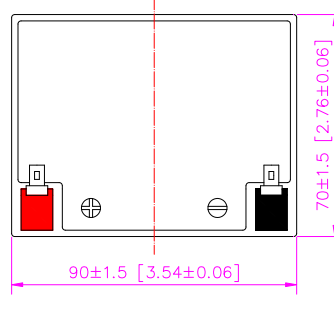
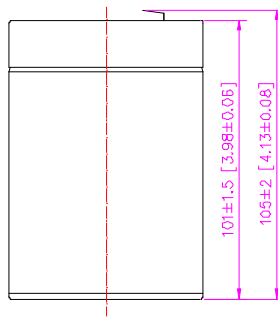
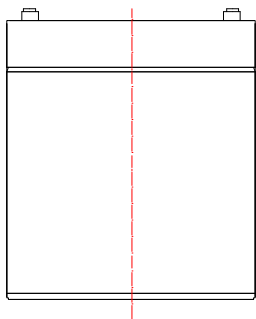
- 100% before shipment testing, stable and reliable long-term quality
- patented grid alloy formula and updated manufacturing technique
- completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use: More than 260 cycles at 100% DOD
- Floating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

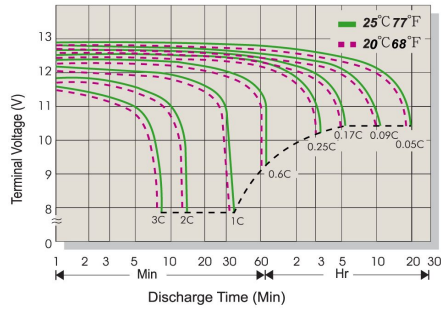
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy
- Safety valve .... Rubber
- Terminal .....Copper
- Separator .....Fiber glass
- Electrolyte .....Sulfuric acid



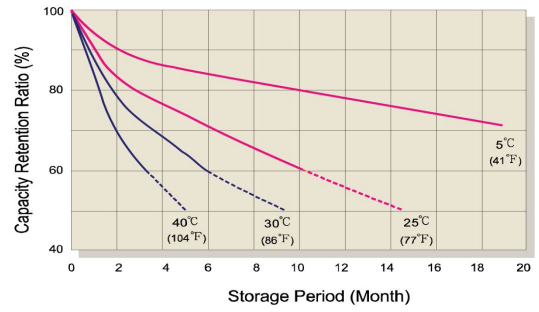
#### Speification:

Battery Model	MS 5-12 12V5.0AH			
Designed Floating Life	3~5 Years			
Capacity (25°C)	20HR(0.25A,10.5V)	10HR(0.474A,10.5V)	5HR(0.85A,10.5V)	1HR(2.90A,10.5V)
	5.00AH	4.74AH	4.25AH	2.90AH
Dimensions	Length	Width	Height	Total Height
	90mm (3.54inch)	70mm (2.76inch)	101mm (3.98inch)	105mm (4.13inch)
Approx. Weight	1.60Kg (3.53 lbs) ±5%			
Internal Resistance	Full charged at 25°C : ≤35mΩ			
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	
	14.40-14.70V(-30mV/°C), max. Current: 1.50A		13.50-13.80V (-20mV/°C)	

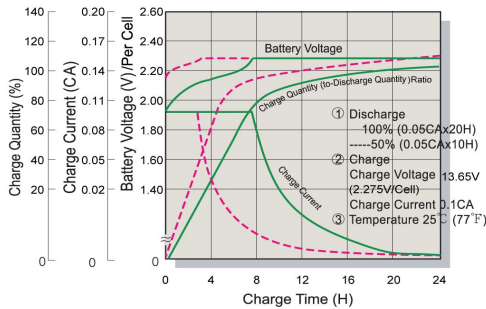
### Terminal Voltage (V) and Discharge Time



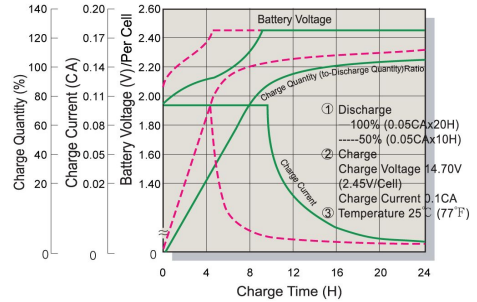
### Capacity Retention Characteristic



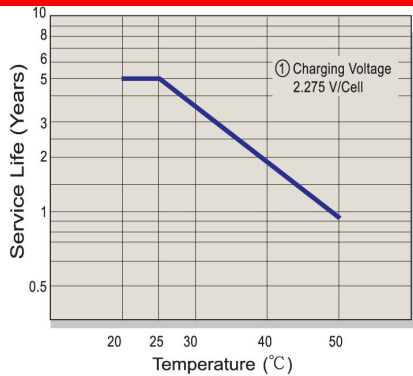
### Battery Voltage and Charge Time for Standby Use



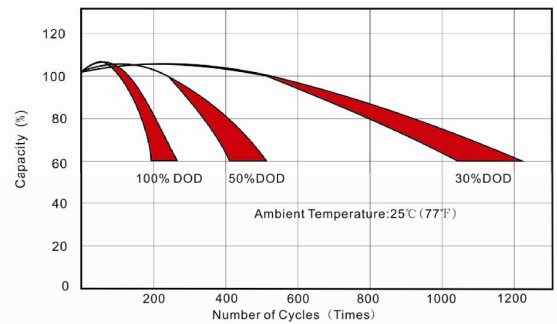
### Battery Voltage and Charge Time for Cycle Use



### 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
1.85V/Cell	13.79	9.80	7.63	4.73	2.79	1.63	1.24	0.985	0.819	0.699	0.456	0.241
1.80V/Cell	14.05	9.99	7.77	4.82	2.84	1.66	1.26	1.004	0.834	0.713	0.465	0.245
1.75V/Cell	14.32	10.18	7.92	4.91	2.90	1.69	1.29	1.023	0.850	0.726	0.474	0.250
1.70V/Cell	15.61	10.79	8.39	5.11	2.95	1.72	1.31	1.041	0.865	0.739	0.482	0.254
1.67V/Cell	17.18	11.70	9.11	5.39	2.98	1.74	1.32	1.052	0.874	0.747	0.487	0.257
1.60V/Cell	18.61	12.31	9.58	5.62	3.01	1.76	1.34	1.064	0.883	0.755	0.492	0.260

### 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	26.89	19.11	14.87	9.23	5.44	3.18	2.42	1.92	1.60	1.36	0.89	0.47
1.80V/Cell	27.40	19.48	15.16	9.40	5.54	3.24	2.46	1.96	1.63	1.39	0.91	0.48
1.75V/Cell	27.92	19.84	15.44	9.58	5.65	3.30	2.51	2.00	1.66	1.42	0.92	0.49
1.70V/Cell	30.43	21.03	16.37	9.96	5.74	3.36	2.55	2.03	1.69	1.44	0.94	0.50
1.67V/Cell	33.50	22.82	17.76	10.52	5.81	3.39	2.58	2.05	1.70	1.46	0.95	0.50
1.60V/Cell	36.29	24.01	18.68	10.97	5.87	3.43	2.61	2.07	1.72	1.47	0.96	0.51