



valve regulated
sealed lead acid type
rechargeable battery



MB12-7HR(12V7.0AH)





Specification

Nominal Voltage	12V
Watts(15min Rate)	28.4 Watts at 1.67V/cell
Dimension	Length 151±2mm (5.95 inches)
	Width 65±1mm (2.56 inches)
	Container Height 93.5±1mm (3.68 inches)
	Total Height (with Terminal) 99±1mm (3.90 inches)
	Approx Weight
Terminal	T2
Container Material	ABS Standard ABS UL94 HB Optional ABS UL94 V0
Rated Capacity	7.23 AH/0.723A (10hr, 1.80V/cell, 25°C/77°F)
	7.00 AH/0.875A (8hr, 1.80V/cell, 25°C/77°F)
	6.45 AH/1.29A (5hr, 1.75V/cell, 25°C/77°F)
	5.67 AH/1.89A (3hr, 1.75V/cell, 25°C/77°F)
	5.41 AH/5.41A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	105A (5s)
Internal Resistance	Approx 20mΩ
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 2.1A. Voltage
	14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C
Standby Use	No limit on Initial Charging Current Voltage
	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	MB 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	6-9 years at 20°C with charge voltage 2.25V/cell .



Applications

- ◆ UPS (High rate)
- ◆ High power backup supply
- ◆ Emergency power supply
- ◆ Starting system
- ◆ Power tools
- ◆ Emergency lighting
- ◆ Electric starting

 MH45660	 ETL SEMKO	
 ISO14001	 ISO9001	

Conform to:
IEC60896-21&22

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	25.9	16.7	13.1	10.9	8.11	5.88	4.63	2.58	1.83	1.45	1.21	1.05	0.841	0.704	0.382
1.80V/cell	29.1	18.2	14.1	11.68	8.58	6.18	4.84	2.66	1.89	1.49	1.25	1.09	0.875	0.723	0.390
1.75V/cell	31.1	19.4	15.0	12.3	8.92	6.43	5.09	2.75	1.95	1.55	1.29	1.12	0.897	0.743	0.398
1.70V/cell	33.0	20.4	15.7	12.8	9.27	6.61	5.22	2.82	2.01	1.59	1.33	1.15	0.913	0.757	0.403
1.67V/cell	34.6	21.2	16.2	13.2	9.52	6.78	5.31	2.88	2.05	1.62	1.35	1.17	0.925	0.765	0.406
1.60V/cell	35.5	21.7	16.6	13.4	9.67	6.90	5.41	2.92	2.07	1.64	1.37	1.18	0.933	0.771	0.408

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

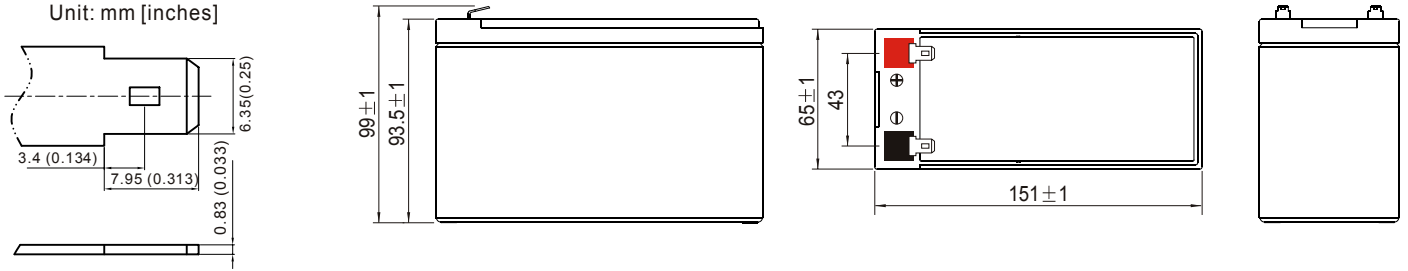
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	48.3	31.3	24.6	20.5	15.4	11.3	8.93	5.01	3.58	2.84	2.38	2.07	1.66	1.39	0.757
1.80V/cell	52.7	33.3	26.1	21.8	16.2	11.8	9.28	5.13	3.67	2.91	2.44	2.13	1.72	1.43	0.771
1.75V/cell	55.6	35.2	27.5	22.9	16.7	12.2	9.72	5.28	3.77	3.00	2.51	2.18	1.76	1.47	0.786
1.70V/cell	58.4	36.5	28.5	23.5	17.2	12.4	9.94	5.42	3.87	3.07	2.57	2.23	1.79	1.49	0.795
1.67V/cell	60.3	37.3	29.0	24.0	17.6	12.7	10.1	5.50	3.93	3.12	2.61	2.26	1.81	1.51	0.801
1.60V/cell	60.6	37.6	29.2	24.0	17.6	12.8	10.2	5.56	3.96	3.15	2.64	2.29	1.82	1.52	0.803



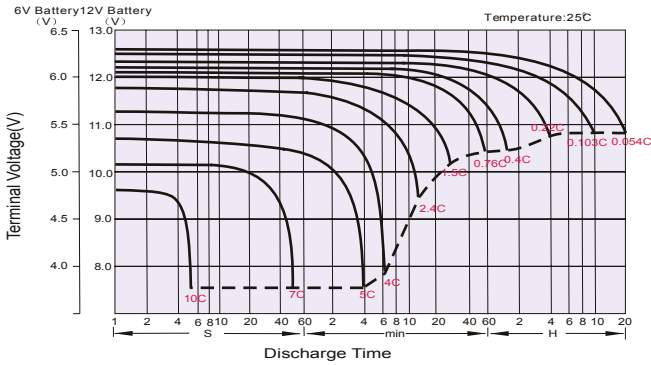
Dimensions

T2 Terminal

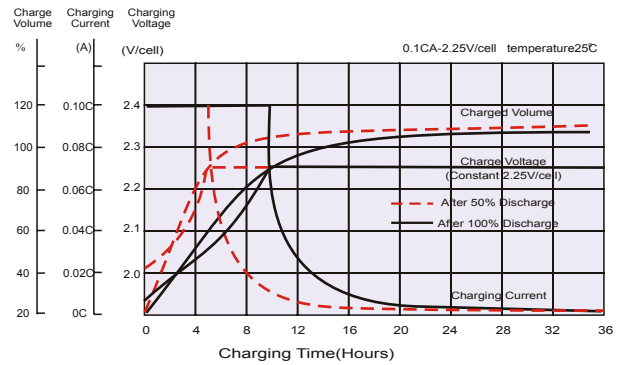
Unit: mm [inches]



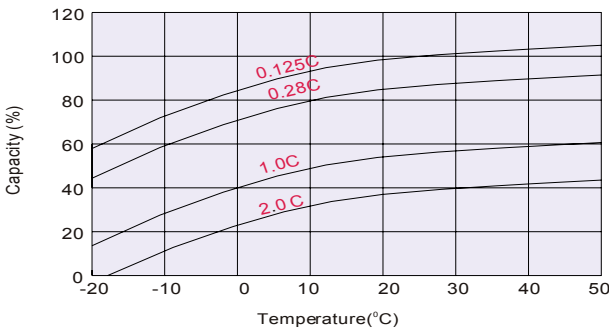
Discharge Characteristics



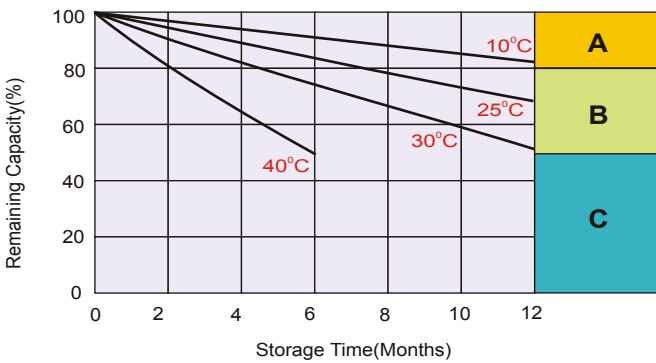
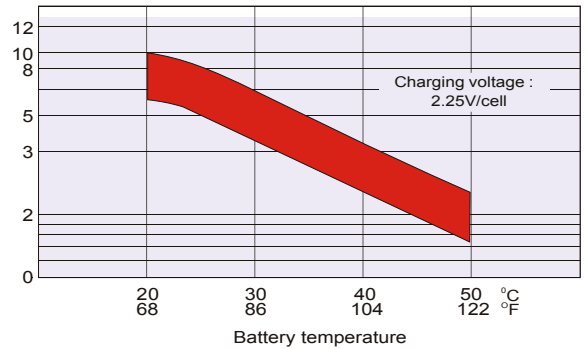
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Term Float Life



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.