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# MU 1500 ▶ 2V 1500Ah

MU1500 is a long service life battery up to 20 years expected life under normal float charge. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



MH14533(N)



CSB-manufactured VRLA batteries are UL-recognized components under UL924 and UL1989.

CSB is also certified by ISO 9001 and ISO 14001.

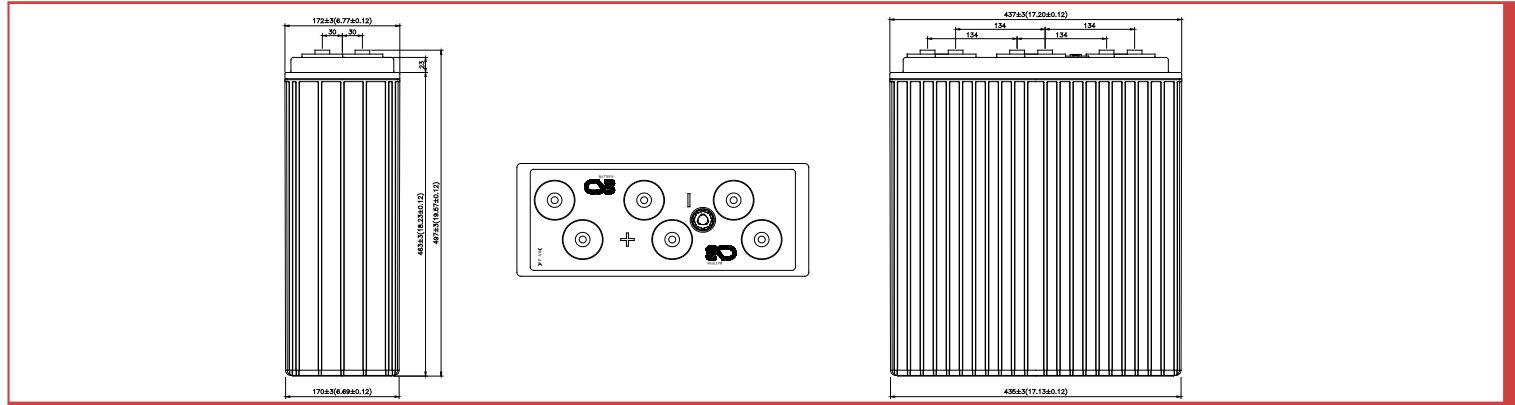
## ► Specification

Cells Per Unit	1
Voltage Per Unit	2
Capacity	1500A h @ 10hr-rate to 1.80V per cell @25 °C (77°F)
Weight	Approx. 91.5 kg(201.7 lbs)
Maximum Discharge Current	9000A(5sec)
Internal Resistance	Approx. 0.35 m Ω
Operating Temperature Range	Discharge: -20°C~50°C (-4°F~122°F) Charge: 0°C~40°C (32°F~104°F) Storage: -20°C~40°C (-4°F~104°F)
Nominal Operating Temperature Range	25°C±3°C (77°F±5°F)
Float Charging Voltage	2.23±0.02/Cell at 25 °C (77°F) Temp. Coefficient ±3.3mV/°C (± 1.8mV/°F)
Recommended Maximum Charging Current Limit	450A
Equalization and Cycle Service	2.35V Temps coefficient ±3.3mV/°C (± 1.8mV/°F)
Terminal	Pb-Ca-Sn Alloy(Recessed Terminal)
Container Material	The container and cover are made of flame retardant plastics which meet UL 94-V0 specifications. The oxygen index level is higher than 28.

## ► Dimensions :

Unit: mm (inch)

Overall Height (H)	Container height (h)	Length (L)	Width (W)
497±3 (19.57±0.12)	463±3 (18.23±0.12)	437±3 (17.2±0.12)	172±3 (6.77±0.12)



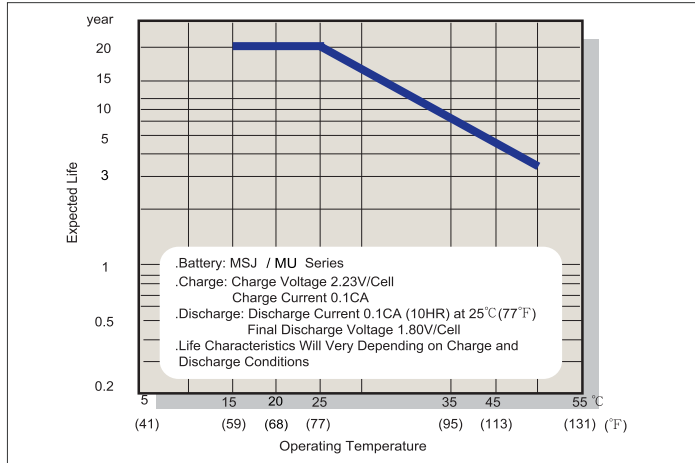
## Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

F.V/Time	30MIN	60MIN	90MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	1630	1,017	763	625	470	369	308	263	205	169
1.67V	1563	993	746	610	459	362	301	258	201	165
1.70V	1475	956	725	591	442	353	291	251	195	160
1.75V	1351	904	688	566	425	341	282	243	190	156
1.80V	1210	830	641	433	401	324	269	232	183	150
1.83V	1071	754	591	497	375	305	254	220	175	143

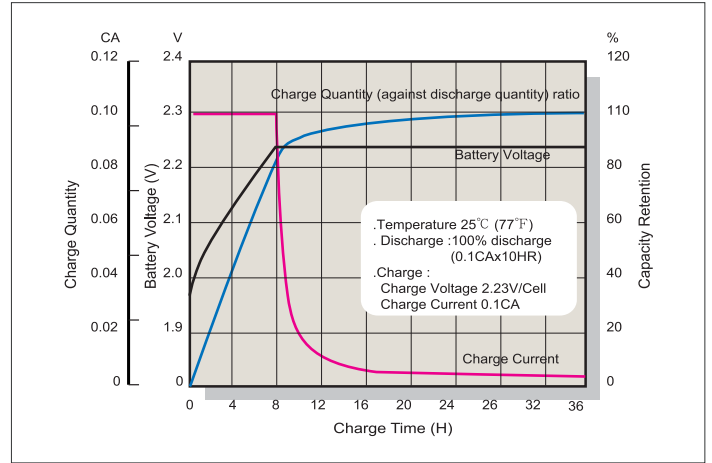
## Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

F.V/Time	30MIN	60MIN	90MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	2559	1759	1328	1100	832	657	554	476	373	309
1.67V	2516	1728	1306	1086	822	652	548	472	370	305
1.70V	2463	1683	1283	1064	800	646	535	467	365	301
1.75V	2310	1600	1225	1024	774	627	522	454	357	295
1.80V	2130	1486	1154	975	738	603	503	436	346	285
1.83V	1960	1380	1087	929	705	580	485	420	336	276

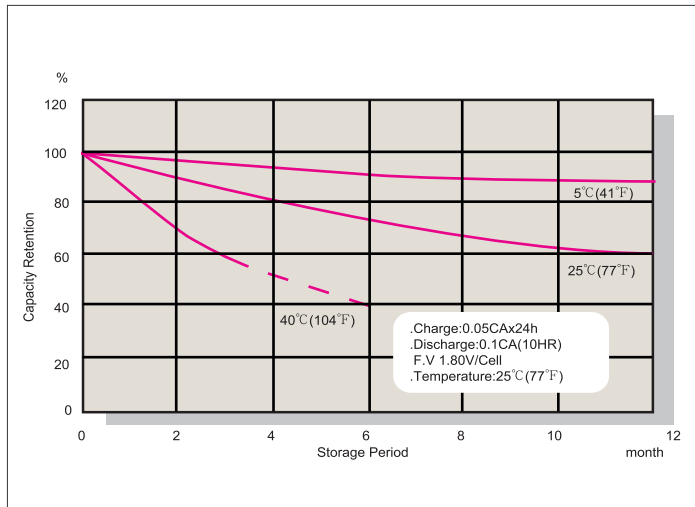
### Expected Life V.S Operating Temperature



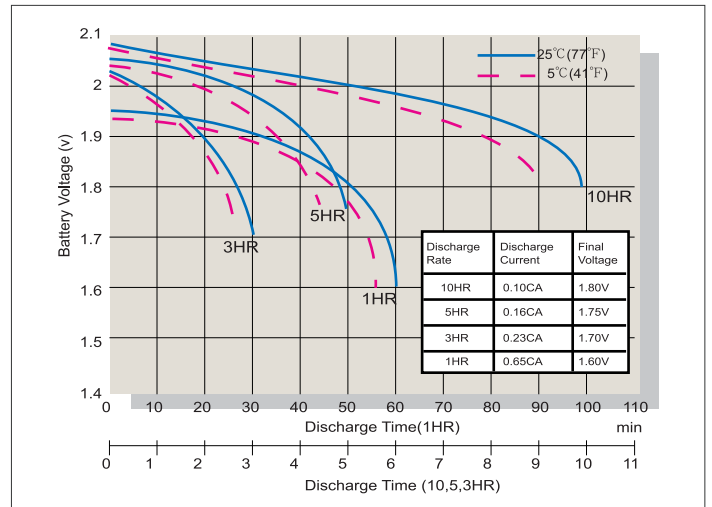
### Typical Constant Voltage Charge Characteristics



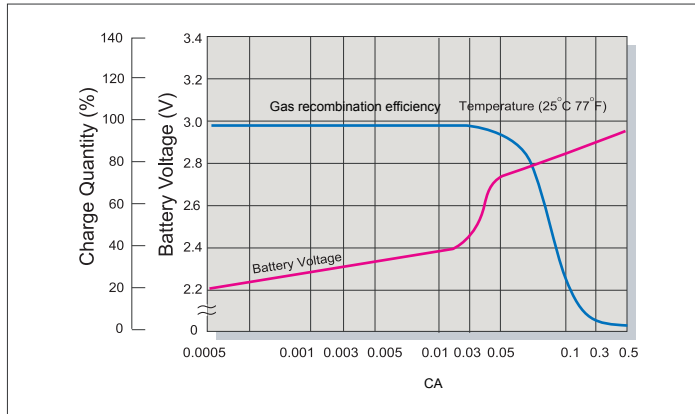
### Capacity Retention Characteristics



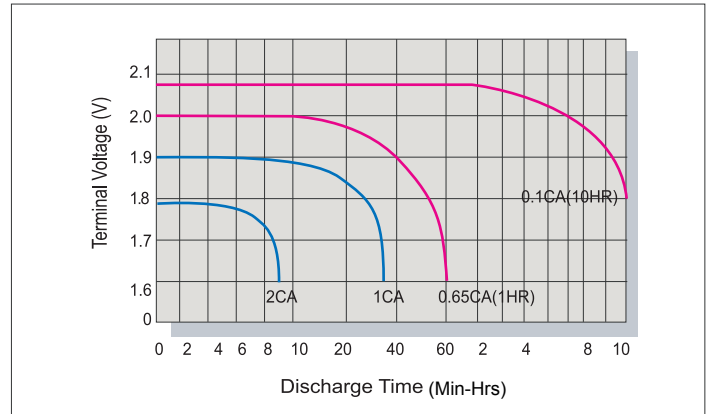
### Discharge Characteristics



### Oxygen Recombination Efficiency Chart



### Terminal Voltage (V) and Discharge Time 25°C (77°F)



### Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Standby	25°C (77°F)	2.23	2.21~2.25	0.3C

### Discharge Current VS. Discharge Voltage

Discharge Current (A)	Final Discharge Voltage (V/Cell)
0.05C > A	1.90
0.15C > A ≥ 0.05C	1.80
0.20C > A ≥ 0.15C	1.75
0.40C > A ≥ 0.20C	1.70
A > 0.40C	1.60

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