



MSJ 1500

2V 1500Ah

MSJ-1500 is a Long service life battery with 15~20 years expected life under normal float charge. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



Specification

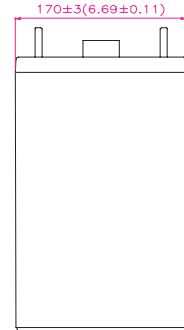
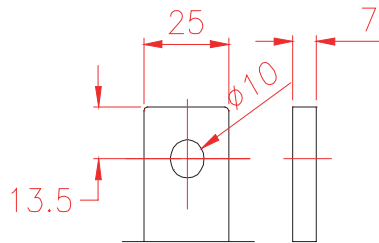
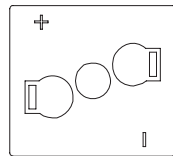
Cells Per Unit	1
Voltage Per Unit	2
Capacity	1500Ah @ 10hr-rate to 1.80V per cell @25 °C(77°F)
Weight	Approx. 105kg(231.0 lbs)
Maximum Discharge Current	9000A(5sec)
Internal Resistance	Approx. 0.35 mΩ
Operating Temperature Range	Discharge: -15°C~50°C (5°F~122°F) Charge: -15~40°C (5°F~104°F) Storage: -15°C~40°C (5°F~104°F)
Nominal Operating Temperature Range	25°C±3°C(77°F±5°F)
Float Charging Voltage	2.23±0.02/Cell AT25°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
Container Material	The container and cover are made of flame retardant plastics which meet UL-94V-0 specifications. The oxygen index level is higher than 28.



CSB-manufactured batteries are UL-recognized components under UL924 and UL1989. CSB is also certified by ISO 9001 and ISO 14001.

Dimensions

Unit:(mm)



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

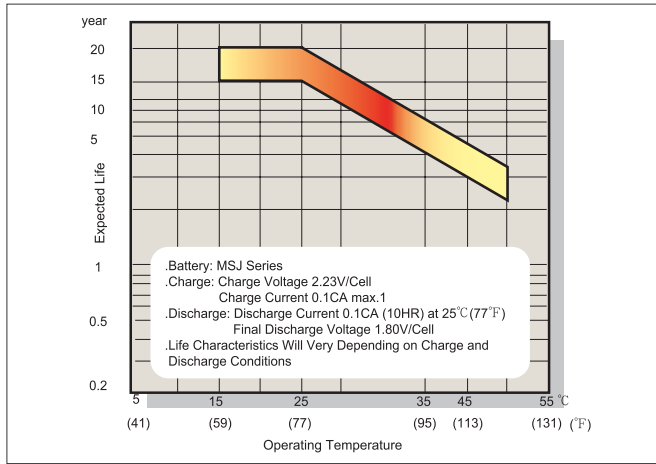
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	1408.00	1090.00	764.00	502.00	383.00	297.00	257.00	218.00	174.00	145.00
1.80V	1665.00	1210.00	829.00	534.00	402.00	324.00	270.00	231.00	183.00	150.00
1.75V	1928.00	1307.00	881.00	558.00	418.00	335.00	279.00	239.00	188.00	156.00
1.70V	2173.00	1471.00	956.00	591.00	441.00	354.00	293.00	252.00	195.00	161.00
1.65V	2337.00	1565.00	975.00	601.00	451.00	364.00	299.00	257.00	198.00	163.00
1.60V	2456.00	1631.00	1020.00	625.00	472.00	375.00	311.00	266.00	206.00	168.00

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

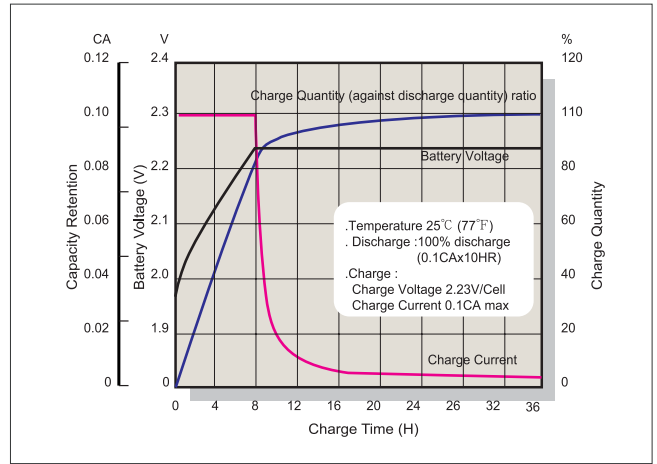
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	2447.00	1917.00	1372.00	920.00	706.00	554.00	480.00	411.00	329.00	276.00
1.80V	2895.00	2127.00	1488.00	978.00	741.00	603.00	504.00	435.00	345.00	285.00
1.75V	3241.00	2222.00	1572.00	1018.00	767.00	623.00	513.00	447.00	357.00	291.00
1.70V	3604.00	2466.00	1683.00	1065.00	798.00	648.00	534.00	468.00	366.00	300.00
1.65V	4130.00	2796.00	1752.00	1094.00	831.00	649.00	548.00	473.00	371.00	303.00
1.60V	4170.00	2810.00	1758.00	1098.00	834.00	657.00	555.00	477.00	372.00	306.00

● All mentioned values are average values.

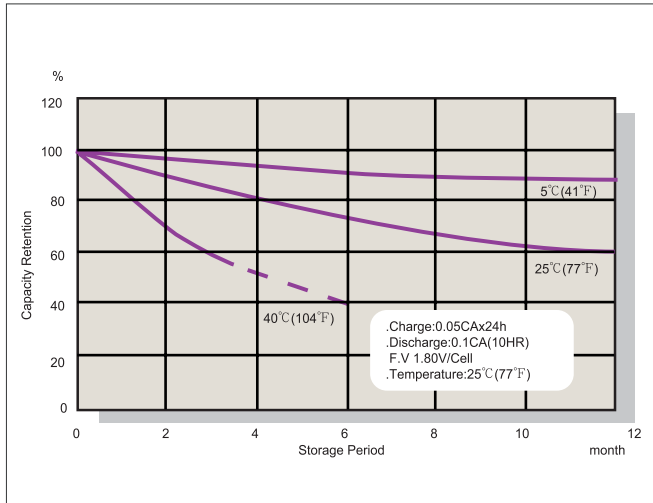
Expected Life V.S Operating Temperature



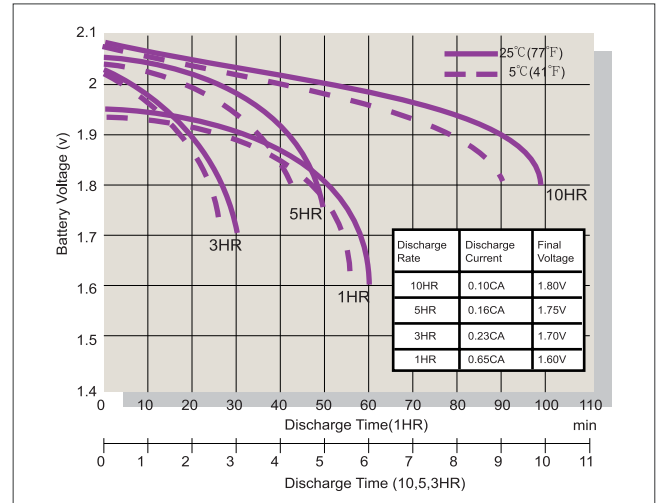
Typical Constant Voltage Charge Characteristics



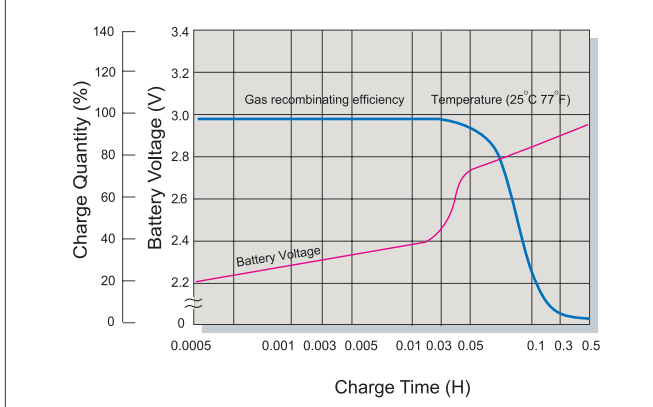
Capacity Retention Characteristics



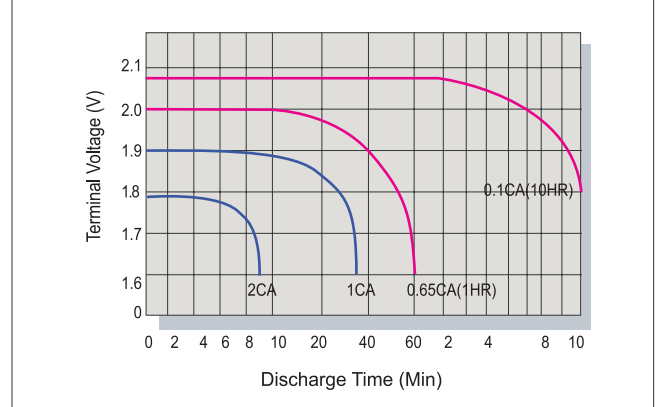
Discharge Characteristics



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
0.40 C > A ≥ 0.20C	1.70
A > 0.40 C	1.60

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