



MSJ 3000

2V 3000Ah

MSJ-3000 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

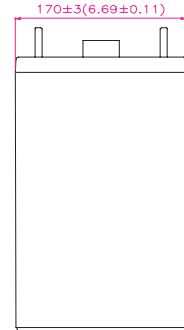
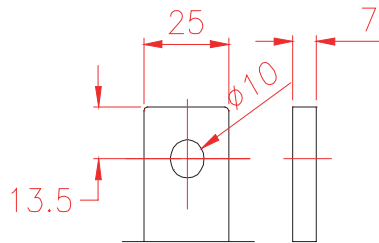
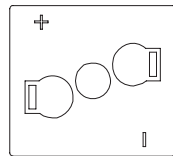
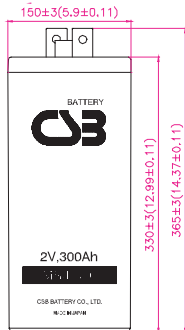
Cells Per Unit	1
Voltage Per Unit	2
Capacity	3000Ah @ 10hr-rate to 1.80V per cell @25 °C(77°F)
Weight	Approx. 210kg(462.0 lbs)
Maximum Discharge Current	1800A(5sec)
Internal Resistance	Approx. 0.27 mΩ
Operating Temperature Range	Discharge: -15°C~50°C (5°F~122°F) Charge: -15~40°C (5°F~104°F) Storage: -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	900A
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)

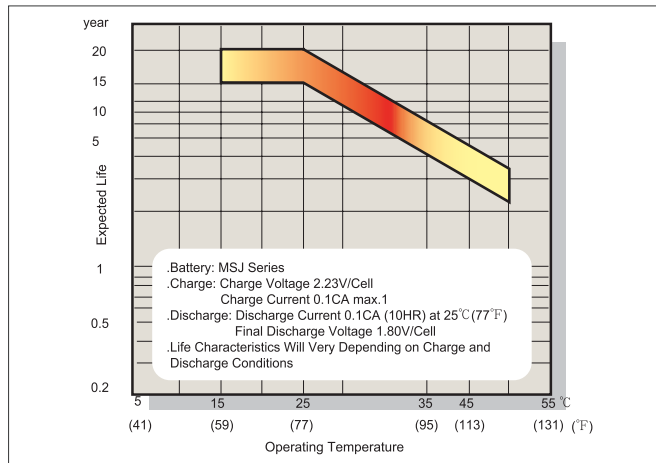
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	2813.00	2180.00	1527.00	1004.00	766.00	596.00	513.00	436.00	349.00	290.00
1.80V	3329.00	2419.00	1657.00	1067.00	804.00	648.00	539.00	462.00	366.00	300.00
1.75V	3854.00	2613.00	1761.00	1116.00	835.00	670.00	556.00	477.00	377.00	311.00
1.70V	4344.00	2941.00	1911.00	1181.00	883.00	707.00	585.00	504.00	390.00	323.00
1.65V	4675.00	3129.00	1952.00	1201.00	901.00	729.00	598.00	512.00	396.00	327.00
1.60V	4912.00	3261.00	2041.00	1250.00	943.00	750.00	621.00	531.00	411.00	336.00

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

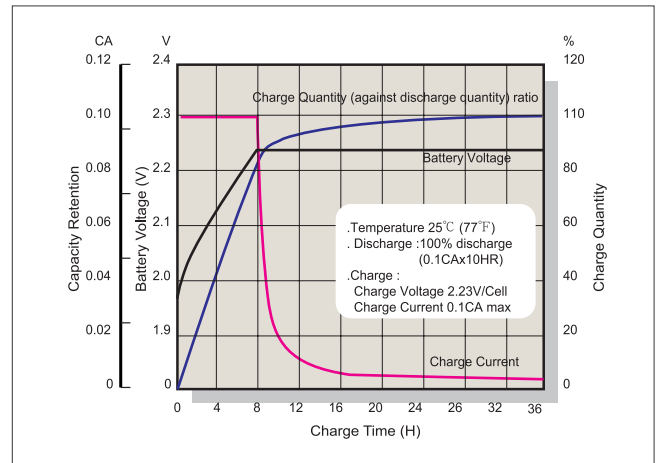
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	4894.00	3834.00	2745.00	1840.00	1412.00	1109.00	960.00	813.00	658.00	604.00
1.80V	5790.00	4254.00	2976.00	1956.00	1482.00	1206.00	1008.00	870.00	690.00	570.00
1.75V	6483.00	4444.00	3145.00	2038.00	1534.00	1252.00	1026.00	894.00	714.00	582.00
1.70V	7208.00	4932.00	3366.00	2130.00	1596.00	1296.00	1068.00	936.00	732.00	600.00
1.65V	8260.00	5591.00	3475.00	2174.00	1652.00	1299.00	1100.00	947.00	737.00	607.00
1.60V	8340.00	5620.00	3516.00	2196.00	1668.00	1314.00	1110.00	954.00	744.00	612.00

• All mentioned values are average values.

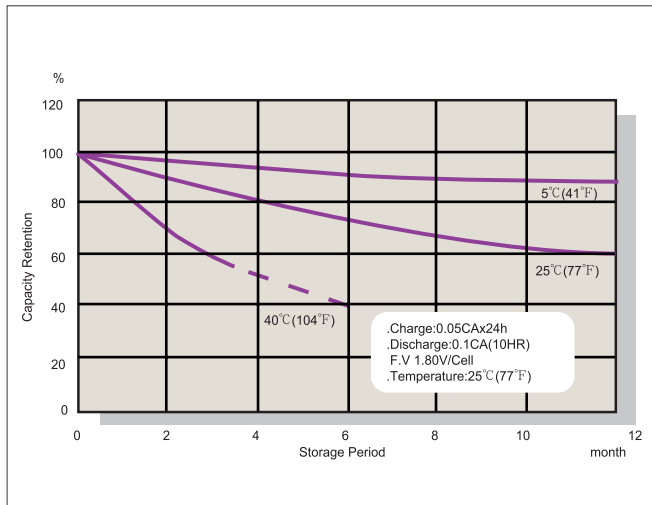
Expected Life V.S Operating Temperature



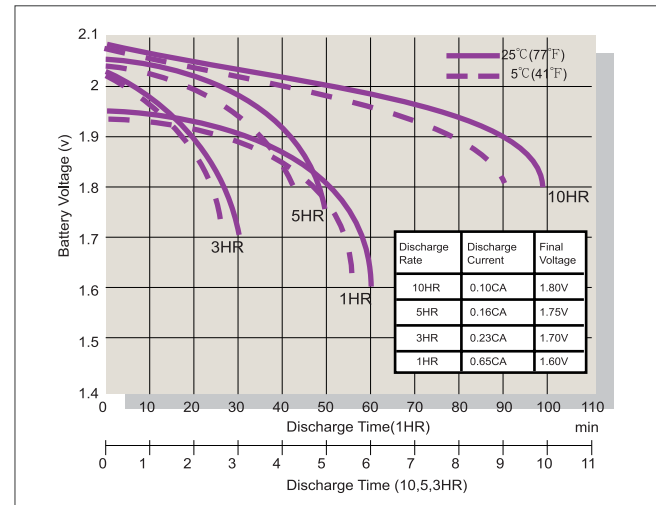
Typical Constant Voltage Charge Characteristics



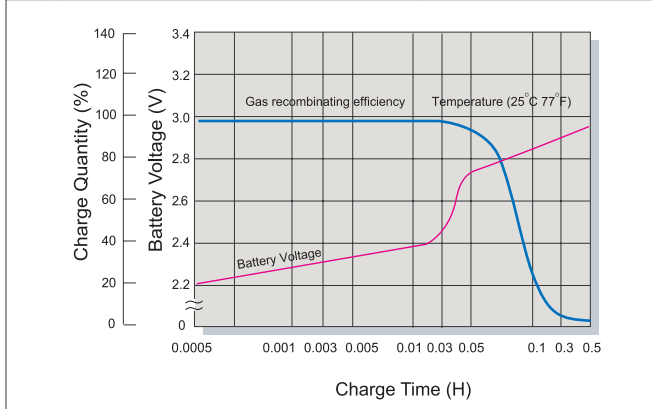
Capacity Retention Characteristics



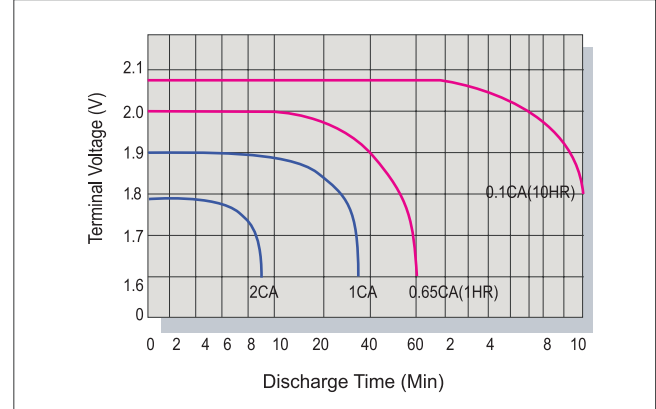
Discharge Characteristics



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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