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MSJ 150 ▶ 2V 150Ah

MSJ 150 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.



► Specification

Cells Per Unit	1
Voltage Per Unit	2
Capacity	150Ah @ 10hr-rate to 1.80V per cell @25 °C (77°F)
Weight	Approx. 13.56 kg(29.9 lbs)
Maximum Discharge Current	900A(5sec)
Internal Resistance	Approx. 0.74 mΩ
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	45A
Equalization / Cycle Use Charging Voltage	2.35V Temps coefficient ±3.3mV/°C (± 1.8mV/°F)
Terminal	Pb-Ca-Sn Alloy L Terminal
Container Material	The container and cover are made of flame retardant plastics which meet ABS(UL 94-V0/File E88637) specifications. The oxygen index level is higher than 28

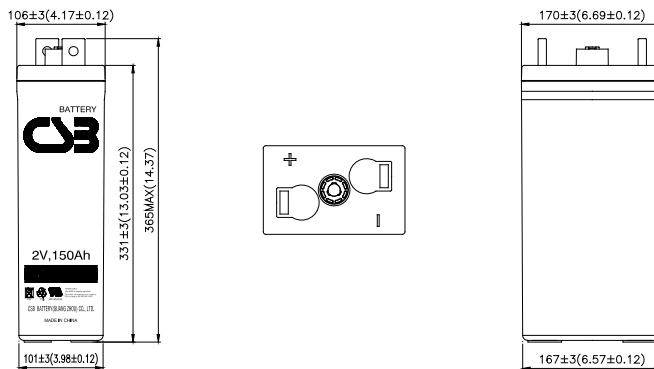
CSB-manufactured VRLA batteries are UL-recognized components under UL924 and UL1989.

CSB is also certified by ISO 9001 and ISO 14001.

► Dimensions :

Unit: mm (inch)

Overall Height (H)	Container height (h)	Length (L)	Width (W)
365±3 (14.37±0.12)	331±3 (13.03±0.12)	170±3 (6.69±0.12)	106±3 (4.17±0.12)



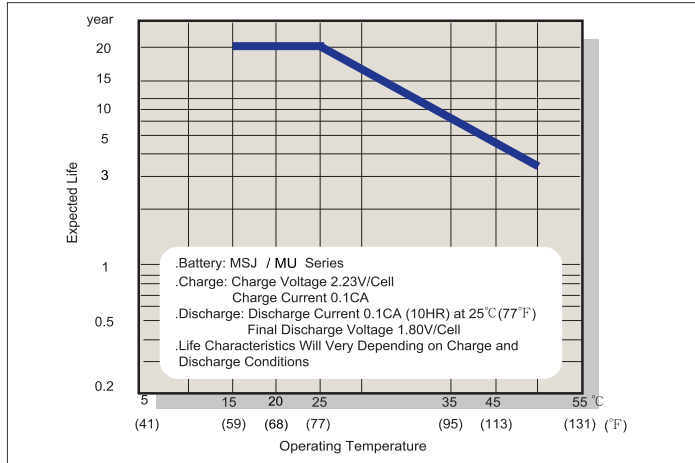
Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	238	158	97.0	58.0	43.0	34.0	29.0	25.0	20.0	16.9
1.67V	227	152	93.0	55.0	41.0	33.0	28.0	24.0	19.3	16.2
1.70V	211	143	91.0	54.0	40.0	32.0	27.0	23.0	19.0	16.0
1.75V	188	127	84.0	52.0	38.0	30.9	26.0	23.0	18.4	15.5
1.80V	161	117	79.0	49.0	37.0	30.6	25.0	22.0	17.9	15.0
1.83V	136	106	73.0	46.0	35.0	28.0	24.0	21.0	17.0	14.5

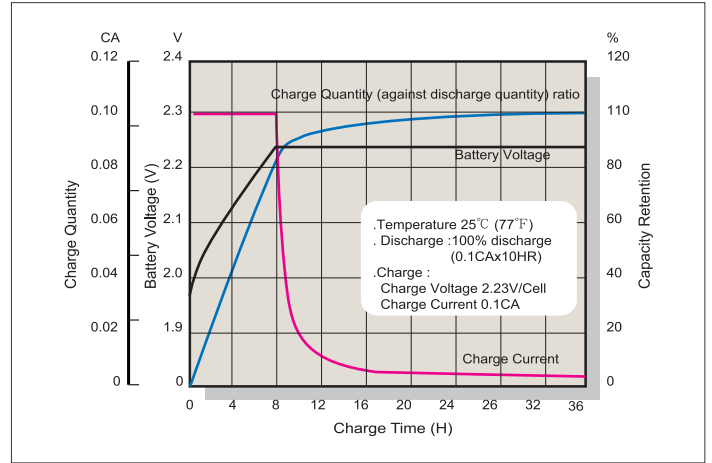
Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	417	281	173	104	78.0	63.0	53.0	47.0	37.4	32.0
1.67V	413	280	172	102	76.5	62.0	52.5	46.5	37.0	31.5
1.70V	380	260	167	101	75.0	61.0	52.0	46.0	36.5	31.0
1.75V	342	234	156	97.0	73.0	58.0	50.0	43.0	36.0	30.0
1.80V	294	216	147	93.0	70.0	57.0	48.0	42.6	35.0	29.0
1.83V	249	195	136	87.0	66.0	53.0	46.0	40.0	33.0	28.0

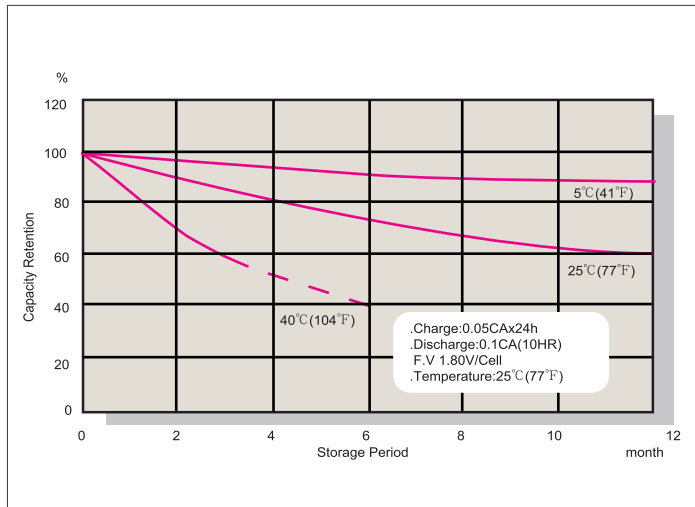
Expected Life V.S Operating Temperature



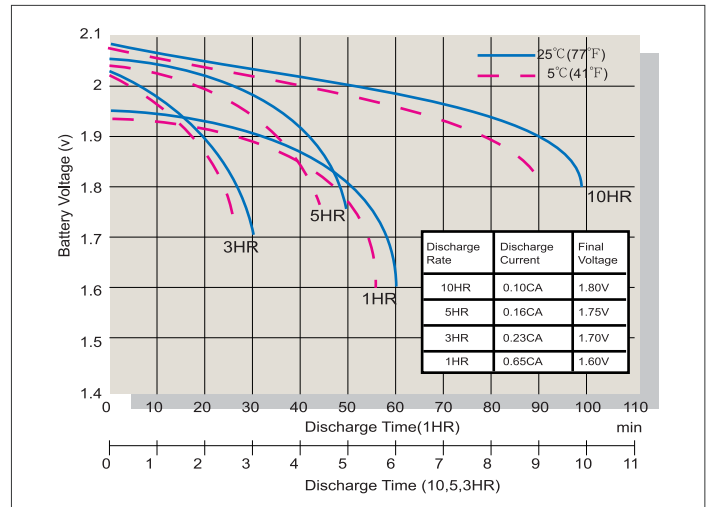
Typical Constant Voltage Charge Characteristics



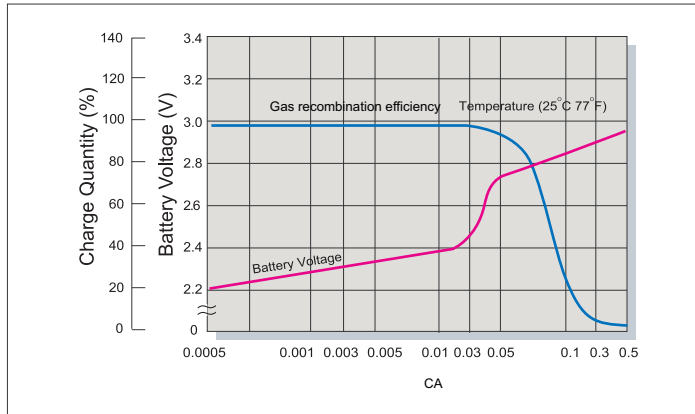
Capacity Retention Characteristics



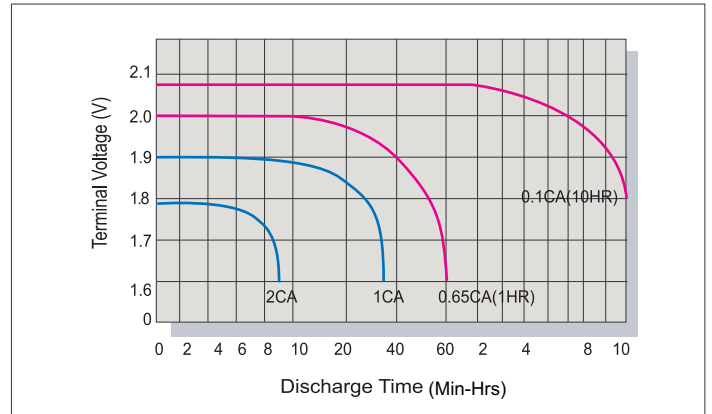
Discharge Characteristics



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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