

MSJ 150

2V 150Ah

MSJ-150 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

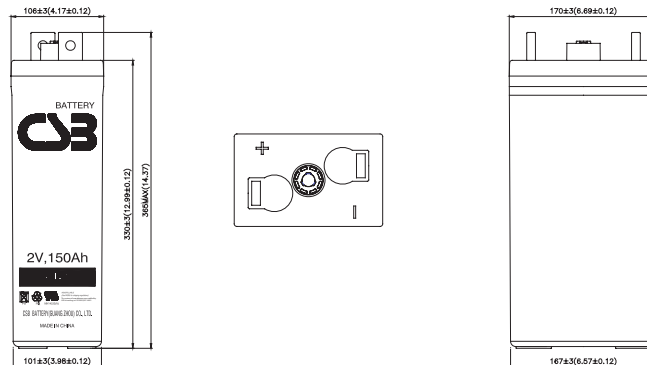
Cells Per Unit	1
Voltage Per Unit	2
Capacity	150Ah @ 10hr-rate to 1.80V per cell @25 °C (77°F)
Weight	Approx. 13kg(28.6 lbs)
Maximum Discharge Current	900A(5sec)
Internal Resistance	Approx. 0.75 mΩ
Operating Temperature Range	Discharge: -15°C~50°C (5°F~122°F) Charge: -15~40°C (5°F~104°F) Storage: -15°C~40°C (5°F~104°F)
Nominal Operating Temperature Range	25°C±3°C (77°F±5°F)
Float Charging Voltage	12.23±0.02V Temps coefficient -3.3mV/°C(-1.8mV/°F)
Recommended Maximum Charging	45A
Current Limit	
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)

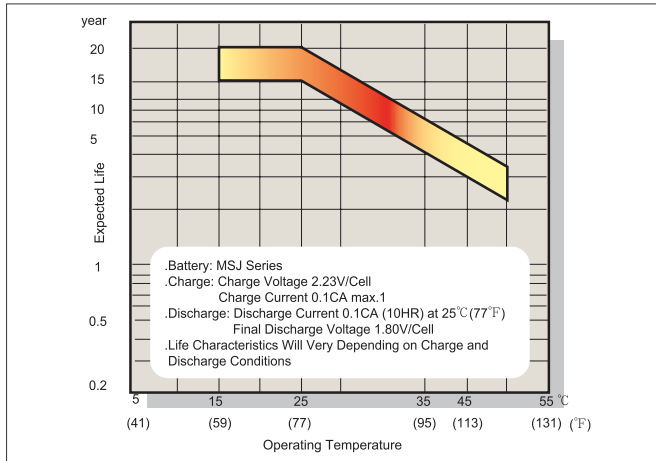
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	136.00	106.00	73.00	46.00	35.00	28.00	24.00	21.00	17.00	14.50
1.80V	161.00	117.00	79.00	49.00	37.00	30.60	25.00	22.00	17.90	15.00
1.75V	188.00	127.00	84.00	52.00	38.00	30.90	26.00	23.00	18.40	15.50
1.70V	211.00	143.00	91.00	54.00	40.00	32.00	27.00	23.00	19.00	16.00
1.65V	227.00	152.00	93.00	55.00	41.00	33.00	28.00	24.00	19.30	16.20
1.60V	238.00	158.00	97.00	58.00	43.00	34.00	29.00	25.00	20.00	16.90

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

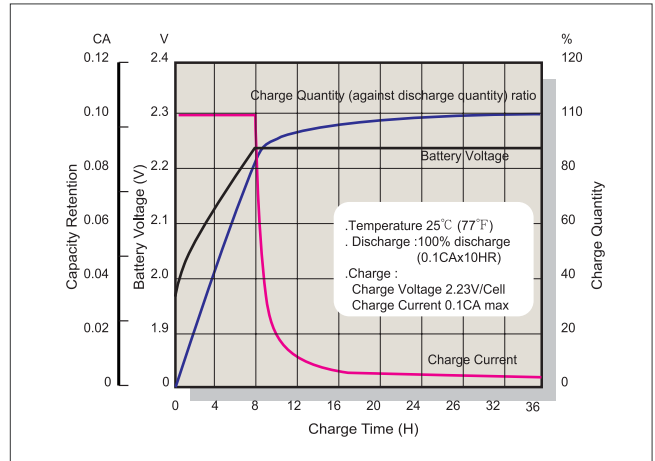
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.83V	249.00	195.00	136.00	87.00	66.00	53.00	46.00	40.00	33.00	28.00
1.80V	294.00	216.00	147.00	93.00	70.00	57.00	48.00	42.60	35.00	29.00
1.75V	342.00	234.00	156.00	97.00	73.00	58.00	50.00	43.00	36.00	30.00
1.70V	380.00	260.00	167.00	101.00	75.00	61.00	52.00	46.00	36.50	31.00
1.65V	413.00	280.00	172.00	102.00	76.50	62.00	52.50	46.50	37.00	31.50
1.60V	417.00	281.00	173.00	104.00	78.00	63.00	53.00	47.00	37.40	32.00

• All mentioned values are average values.
 • Cycle Information : 300~400 cycles@DOD80%, 600~700 cycles@DOD50%, 900~1200 cycles@DOD30%

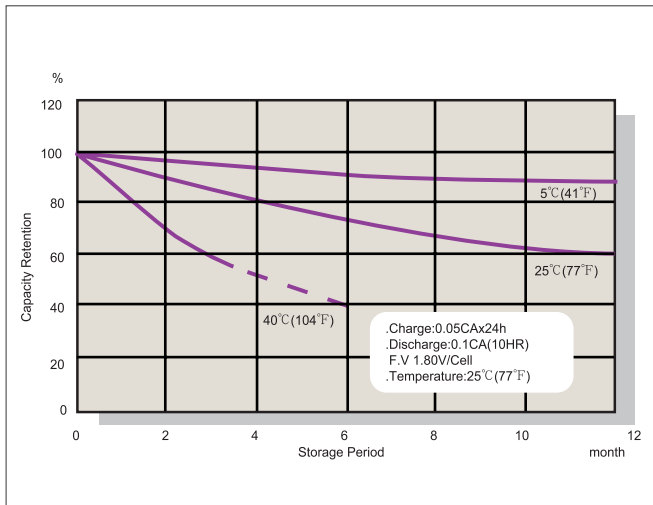
Expected Life V.S Operating Temperature



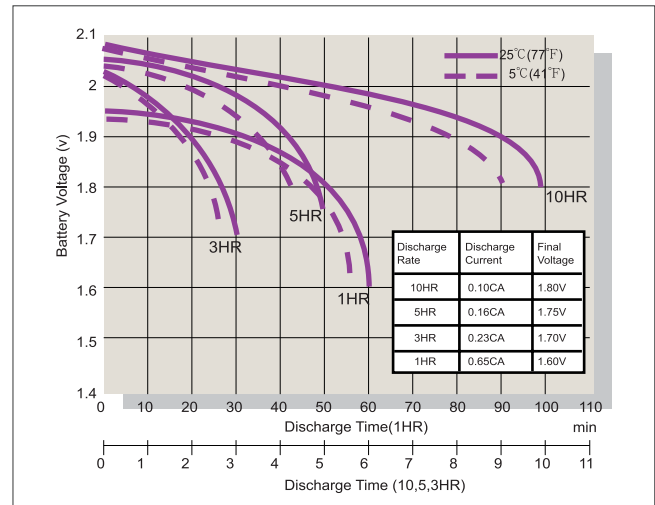
Typical Constant Voltage Charge Characteristics



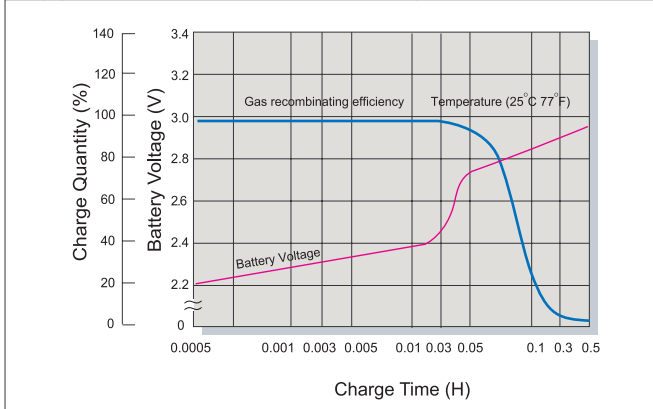
Capacity Retention Characteristics



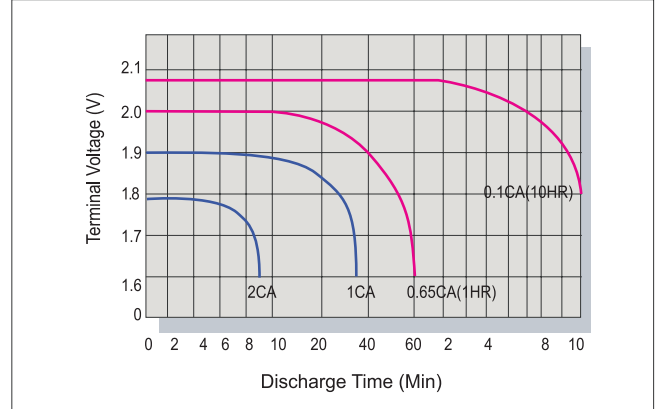
Discharge Characteristics



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

Sales Office URL: WWW.CSB-BATTERY.COM

CSB BATTERY CO., LTD.
 TAIWAN OFFICE
 Tel: +886-2-8751-5000
 Fax: +886-2-8751-6161
 E-mail: service@csb-battery.com.tw

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
 SHANGHAI OFFICE
 Tel: +86-21-5046-1622, 5046-0833
 Fax: +86-21-5064-3314

CSB BATTERY TECHNOLOGIES, INC
 USA OFFICE
 Tel: +1-817-244-7777/1-8003 CSBUSA(272872)
 Fax: +1-817-244-4445
 E-mail: csb@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
 BEIJING OFFICE
 Tel: +86-10-6597-8060, 6597-8070
 Fax: +86-10-6597-8050
 E-mail: chinasis@csb-battery.com

CSB BATTERY OF NETHERLANDS B.V
 NETHERLANDS OFFICE
 Tel: +31(0) 180 418 140
 Fax: +31(0) 180 418 327
 E-mail: eurosales@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
 SHENZHEN OFFICE
 Tel: +86-755-88316356 88316488 88316396
 Fax: +86-755-88316548
 E-mail: she@csb-battery.com