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MSJ 150 ▶ 2V 155Ah

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

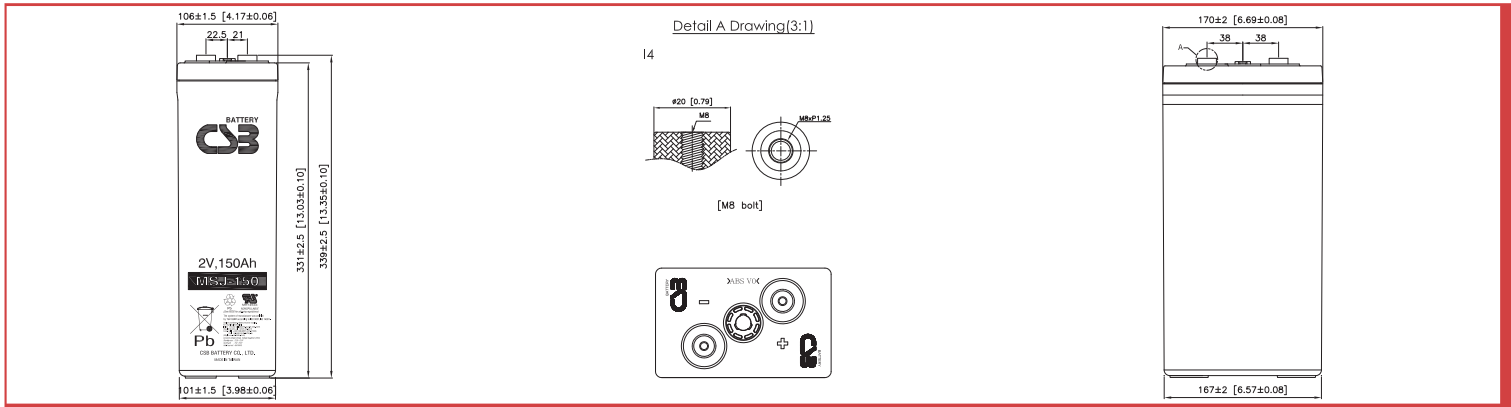
Cells Per Unit	1
Voltage Per Unit	2
Capacity	155Ah @ 10hr-rate to 1.80V per cell @25 °C (77°F)
Weight	Approx. 12.8 kg(28.1 lbs)
Maximum Discharge Current	900A(5sec)
Internal Resistance	Approx. 0.54 mΩ
Operating Temperature Range	Discharge: -20°C~50°C (-4°F~122°F) Charge: 0°C~40°C (32°F~104°F) Storage: -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 Recessed Terminal
Container Material	The container and cover are made of flame retardant plastics which meet ABS(UL 94-V0) specifications. The oxygen index level is higher than 28

CSB-manufactured VRLA (Absorbent Glass Mat type) batteries are UL-recognized components under 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)
	339±2.5 (13.35±0.10)	331±2.5 (13.03±0.10)	170±2 (6.69±0.08)	106±1.5 (4.17±0.06)



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

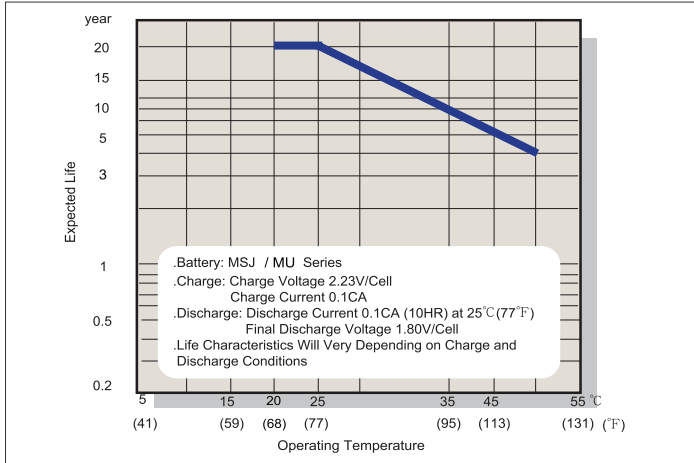
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	286	192	117	67.2	48.2	37.3	30.4	25.7	20.1	16.6
1.67V	256	182	114	66.4	47.7	36.9	30.1	25.5	19.9	16.5
1.70V	241	176	112	65.9	47.4	36.6	29.9	25.3	19.8	16.4
1.75V	217	160	107	64.4	46.5	36.0	29.4	24.9	19.6	16.2
1.80V	185	142	98	61.6	44.9	34.7	28.5	24.3	19.1	15.8
1.83V	164	130	92	58.9	43.1	33.5	27.5	23.5	18.5	15.4

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

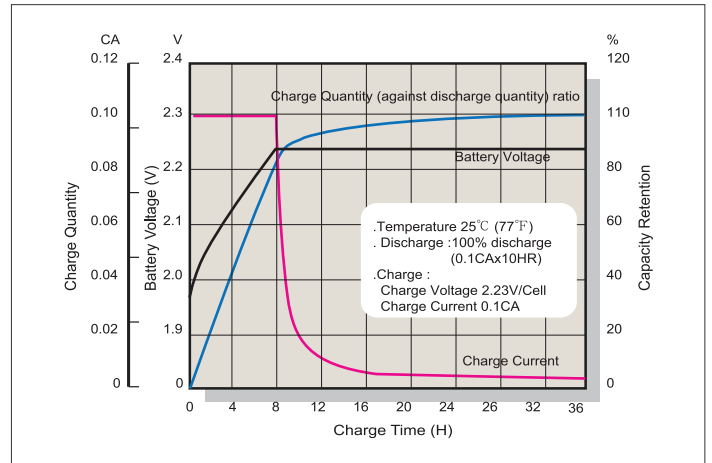
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	501	348	213	128.4	92.0	72.6	60.3	51.7	39.6	31.0
1.67V	466	334	209	127.1	91.2	72.1	59.9	51.4	39.3	30.8
1.70V	448	326	206	126.2	90.7	71.7	59.7	51.2	39.1	30.6
1.75V	409	305	198	123.6	89.2	70.8	58.9	50.5	38.5	30.2
1.80V	367	275	185	118.8	86.4	68.9	57.4	49.3	37.4	29.3
1.83V	331	256	174	114.0	83.5	67.0	55.9	48.0	36.2	28.4

Ratings presented herein are subject to revision without notice. Please refer to www.csb-battery.com to confirm the latest version.

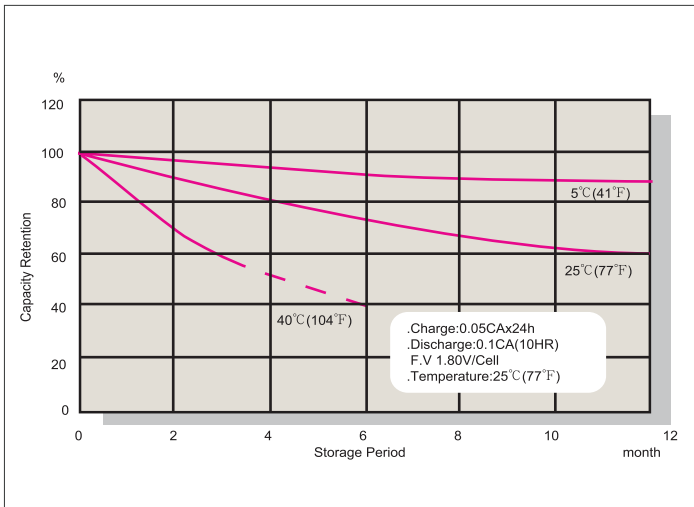
Expected Life V.S Operating Temperature



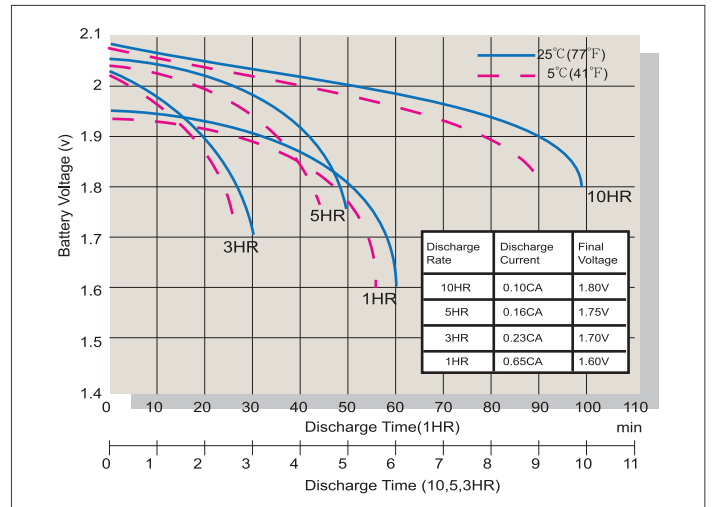
Typical Constant Voltage Charge Characteristics



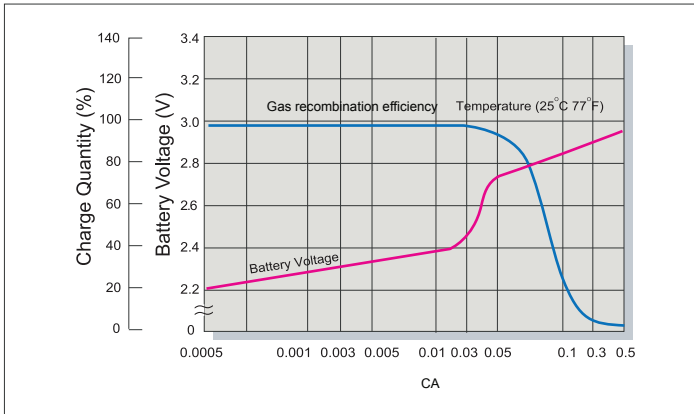
Capacity Retention Characteristics



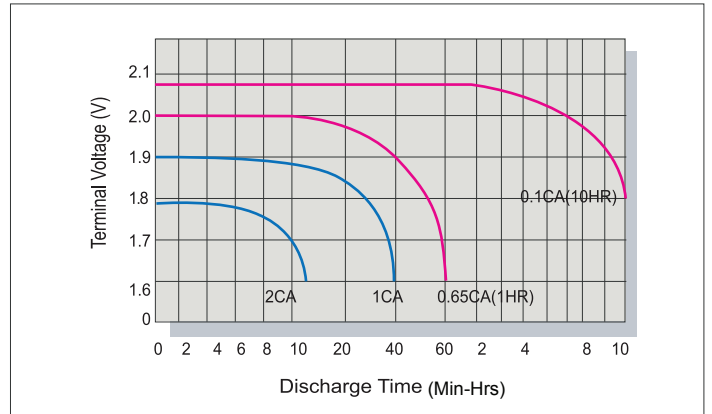
Discharge Characteristics



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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