



MSJ 350

2V 350Ah

MSJ-350 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

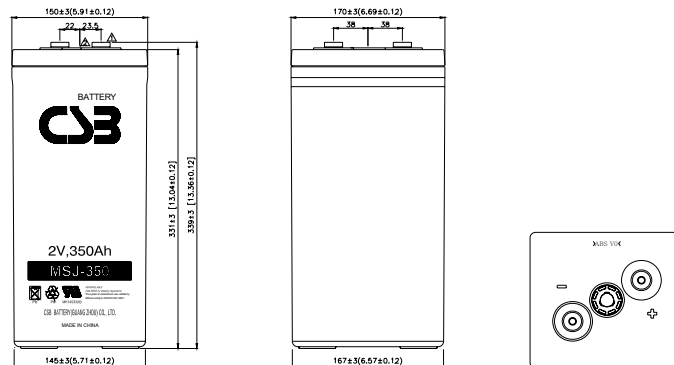
| | |
|--|---|
| Cells Per Unit | 1 |
| Voltage Per Unit | 2 |
| Capacity | 350Ah @ 10hr-rate to 1.80V per cell @25 °C (77°F) |
| Weight | Approx. 22.3kg(49.2 lbs) |
| Maximum Discharge Current | 2100A(5sec) |
| Internal Resistance | Approx. 0.38 mΩ |
| Operating Temperature Range | Discharge: -15°C~50°C (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 | 105A |
| 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)

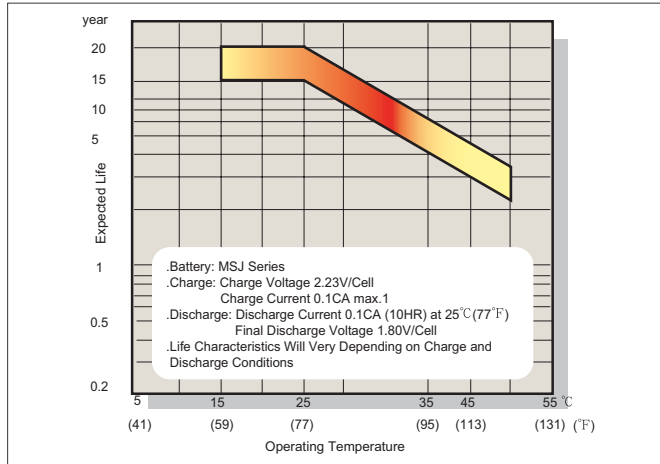
| F.V/Time | 15MIN | 30MIN | 60MIN | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR |
|----------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1.60V | 555.00 | 369.00 | 226.00 | 134.00 | 100.00 | 79.00 | 68.00 | 58.00 | 47.00 | 40.00 |
| 1.65V | 529.00 | 354.00 | 216.00 | 130.00 | 96.00 | 77.00 | 65.00 | 56.00 | 46.00 | 38.00 |
| 1.70V | 494.00 | 334.00 | 212.00 | 127.00 | 95.00 | 76.00 | 64.00 | 56.00 | 44.00 | 37.00 |
| 1.75V | 438.00 | 296.00 | 196.00 | 120.00 | 89.00 | 72.00 | 61.00 | 53.00 | 43.00 | 36.00 |
| 1.80V | 377.00 | 273.00 | 184.00 | 116.00 | 85.00 | 71.00 | 58.00 | 51.00 | 42.00 | 35.00 |
| 1.83V | 319.00 | 246.00 | 170.00 | 109.00 | 82.00 | 65.00 | 56.00 | 49.00 | 40.00 | 34.00 |

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

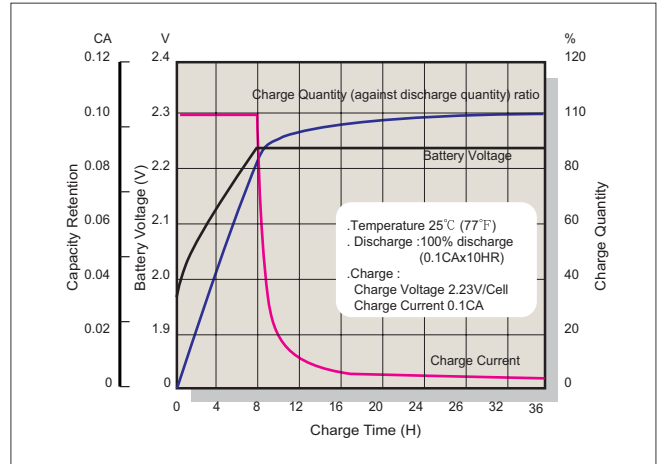
| F.V/Time | 15MIN | 30MIN | 60MIN | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 1.60V | 973.00 | 656.00 | 404.00 | 243.00 | 182.00 | 146.00 | 124.00 | 109.00 | 88.00 | 74.00 |
| 1.65V | 964.00 | 652.00 | 403.00 | 240.00 | 180.00 | 145.00 | 123.00 | 107.00 | 86.00 | 73.00 |
| 1.70V | 887.00 | 607.00 | 390.00 | 236.00 | 176.00 | 144.00 | 121.00 | 106.00 | 85.00 | 72.00 |
| 1.75V | 798.00 | 547.00 | 364.00 | 225.00 | 169.00 | 138.00 | 117.00 | 102.00 | 83.00 | 70.00 |
| 1.80V | 686.00 | 504.00 | 343.00 | 216.00 | 162.00 | 134.00 | 113.00 | 99.00 | 81.00 | 69.00 |
| 1.83V | 580.00 | 454.00 | 316.00 | 203.00 | 155.00 | 123.00 | 107.00 | 95.00 | 77.00 | 67.00 |

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

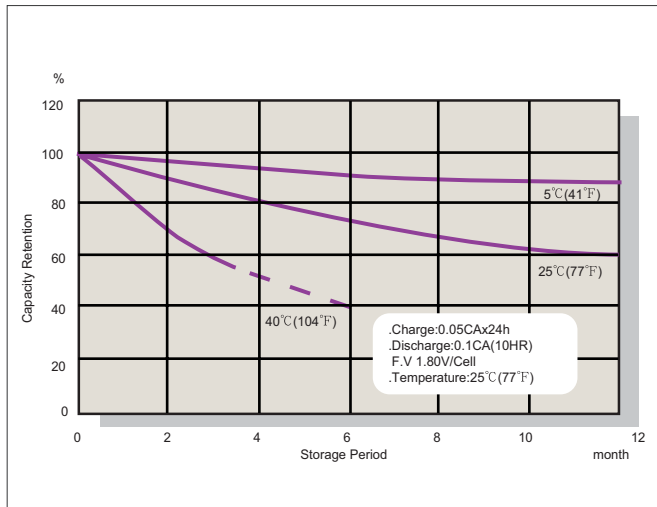
Expected Life V.S Operating Temperature



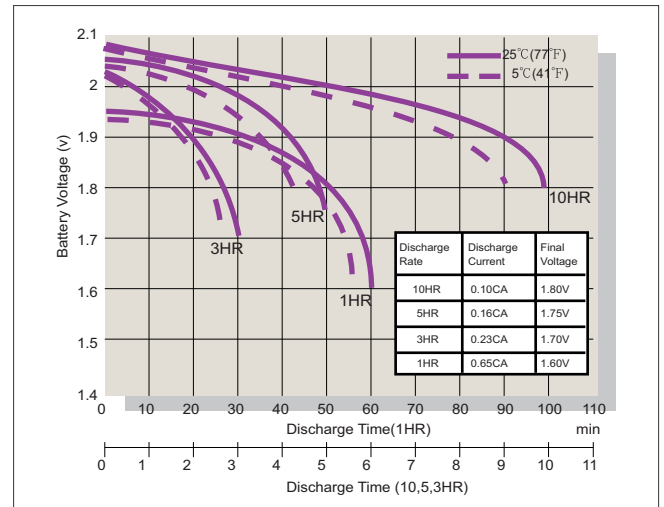
Typical Constant Voltage Charge Characteristics



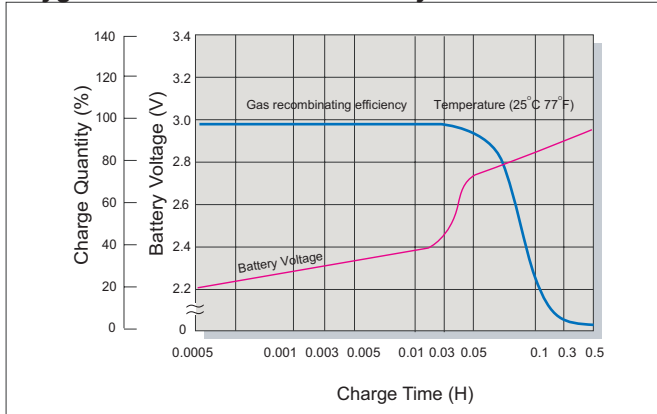
Capacity Retention Characteristics



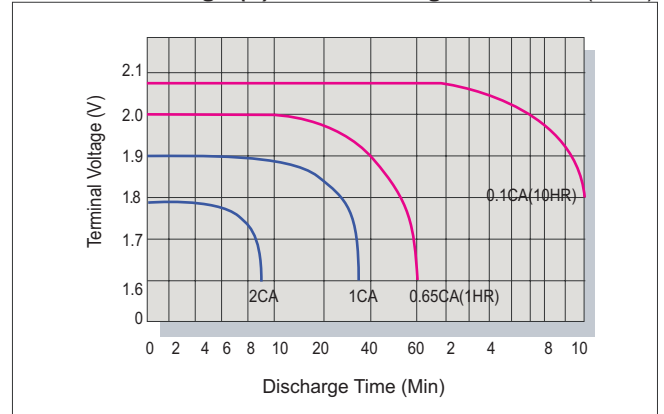
Discharge Characteristics



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: chinasl@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.tw