

## GENERAL FEATURES

- Combine the characteristics of lead acid battery and super capacitor
- Long life cycle service design, excellent PSoc and cyclic performance
- High power, rapid charging and discharging
- Unique grid and lead pasting design
- Extreme temperature tolerance

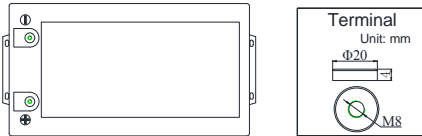
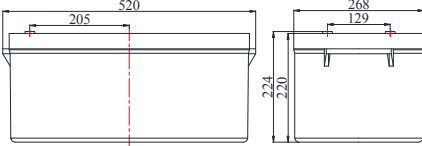
## APPLICATIONS

- Energy storage system
- Smart power grids and micro grids system
- Hybrid energy storage system
- New energy such as Generator and battery hybrid energy system



## DIMENSIONS & WEIGHT

|                  |         |
|------------------|---------|
| Length(mm)       | 520±1   |
| Width(mm)        | 268±1   |
| Height(mm)       | 220±1   |
| Total Height(mm) | 224±1   |
| Weight(kg)       | 77.5±3% |



## COMPLIED STANDARDS

|                 |              |
|-----------------|--------------|
| IEC 60896-21/22 | JIS C8704    |
| YD/T799         | BS6290 part4 |
| GB/T 19638      | UL 1989      |

## TECHNICAL SPECIFICATIONS



|  |                             |  |
|--|-----------------------------|--|
| Nominal Voltage                                    |                             | 12V(6 cells per unit)  |
| Design Floating Life @25°C                         |                             | 20 Years   |
| Nominal Capacity @25°C(20 hour rate@12.00A,10.50V) |                             | 240.0Ah  |
| Capacity @25°C                                     | 10 hour rate (22.28A,10.8V) | 222.8Ah  |
|  | 5 hour rate (41.30A,10.5V)  | 206.5Ah  |
|  | 1 hour rate (144.4A,9.60V)  | 144.4Ah  |
| Internal Resistance                                | Full Charged Battery@25°C   | ≤3.0mΩ   |
| Ambient Temperature                                | Discharge                   | -30°C~60°C   |
|  | Charge                      | -30°C~60°C   |
|  | Storage                     | -30°C~60°C   |
| Max. Discharge Current@25°C                        |                             | 2400A(5s)  |
| Capacity affected by Temperature (10 hr Capacity ) | 40°C                        | 108%   |
|  | 25°C                        | 100%   |
|  | 0°C                         | 90%  |
|  | -15°C                       | 70%  |
| Self-Discharge@25°C per Month                      |                             | 3%   |
| Charge (Constant Voltage) @25°C                    | Standby Use                 | Initial Charging Current Less than 60.0A<br>Voltage 13.6-13.8V |
|  | Cycle Use                   | Initial Charging Current Less than 60.0A<br>Voltage 14.4-14.7V |

## BATTERY DISCHARGE TABLE

### Discharge Constant Current per Cell (Amperes at 25°C)

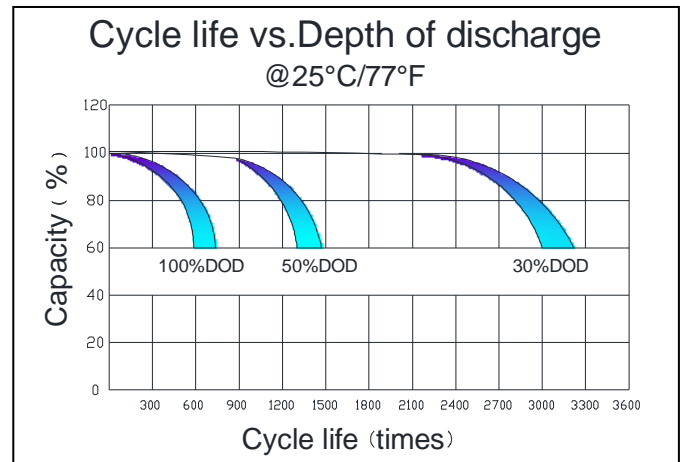
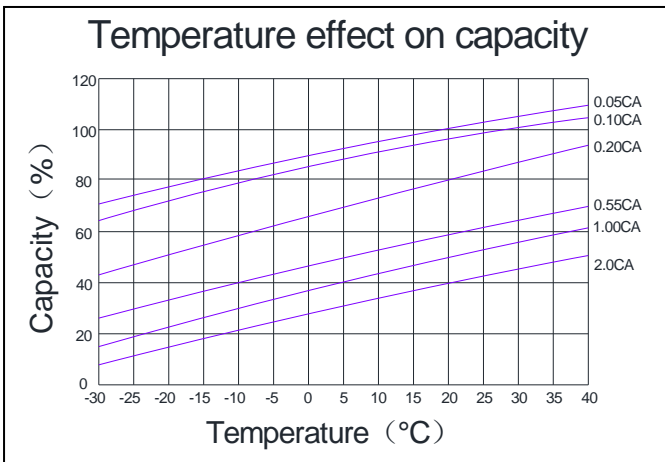
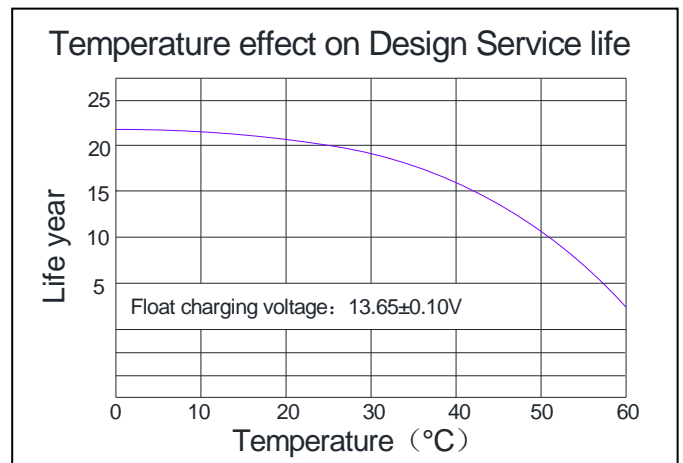
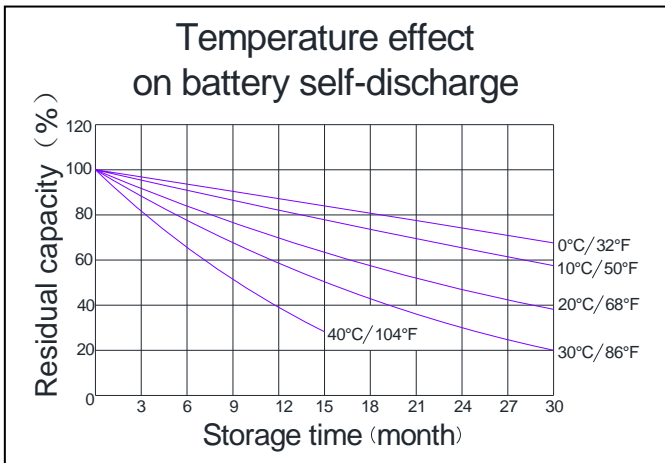
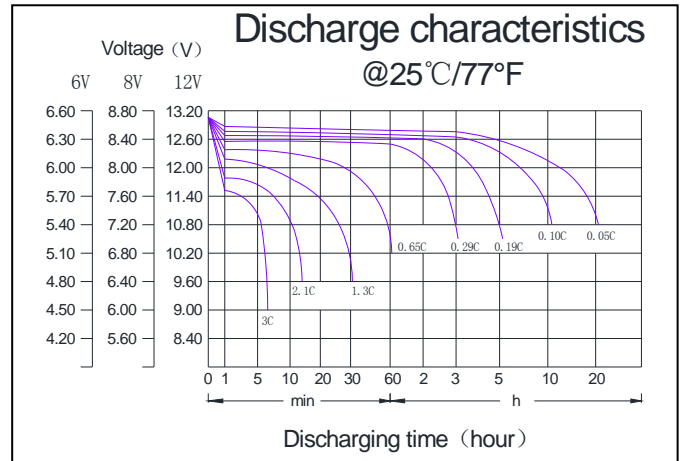
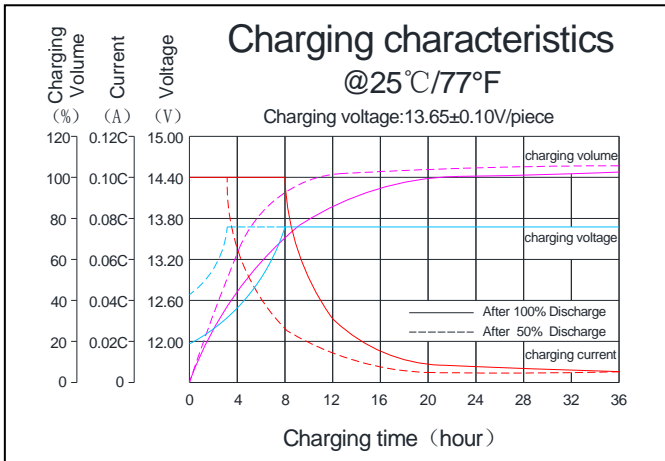
| F.V/Time | 5min  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 60min | 90min | 2h   | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 10h   | 12h   | 20h   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| 1.60V    | 652.6 | 416.1 | 353.5 | 287.9 | 253.8 | 226.0 | 199.5 | 181.4 | 165.9 | 144.4 | 116.6 | 91.7 | 64.4 | 52.7 | 43.6 | 36.6 | 32.2 | 28.8 | 24.46 | 20.56 | 12.72 |
| 1.65V    | 640.8 | 408.4 | 347.2 | 283.2 | 249.4 | 221.9 | 195.8 | 178.0 | 162.9 | 141.5 | 114.3 | 89.9 | 63.1 | 51.7 | 42.8 | 35.8 | 31.7 | 28.3 | 23.99 | 20.20 | 12.48 |
| 1.67V    | 634.5 | 404.6 | 343.3 | 278.7 | 247.2 | 220.0 | 194.7 | 177.1 | 162.1 | 140.2 | 113.5 | 89.1 | 62.6 | 51.2 | 42.3 | 35.6 | 31.4 | 28.0 | 23.75 | 20.05 | 12.36 |
| 1.70V    | 621.6 | 397.2 | 336.7 | 273.7 | 242.6 | 215.6 | 191.5 | 174.1 | 159.3 | 137.4 | 111.1 | 88.3 | 62.1 | 50.6 | 42.1 | 35.3 | 31.2 | 27.8 | 23.26 | 19.71 | 12.26 |
| 1.75V    | 616.9 | 393.0 | 334.3 | 270.3 | 238.8 | 213.7 | 188.9 | 171.8 | 157.1 | 135.8 | 110.1 | 86.5 | 60.8 | 49.9 | 41.3 | 34.8 | 30.6 | 27.3 | 23.01 | 19.39 | 12.00 |
| 1.80V    | 597.4 | 380.4 | 322.7 | 264.2 | 231.7 | 206.8 | 183.4 | 166.7 | 152.4 | 131.7 | 106.7 | 83.1 | 58.4 | 47.5 | 39.7 | 33.5 | 29.3 | 26.2 | 22.28 | 18.75 | 11.64 |
| 1.85V    | 561.7 | 358.7 | 303.8 | 248.0 | 217.5 | 194.5 | 172.3 | 156.7 | 143.4 | 124.1 | 100.2 | 78.7 | 55.1 | 44.9 | 37.4 | 31.7 | 27.8 | 24.7 | 20.91 | 17.63 | 10.58 |

### Discharge Constant Power per Cell (Watts at 25°C)

| F.V/Time | 5min   | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 60min | 90min | 2h    | 3h    | 4h    | 5h   | 6h   | 7h   | 8h   | 10h  | 12h  | 20h   |
|----------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|
| 1.60V    | 1222.8 | 784.4 | 666.6 | 545.5 | 482.9 | 431.8 | 381.2 | 347.6 | 318.1 | 277.1 | 223.3 | 175.9 | 123.6 | 101.0 | 83.6 | 70.1 | 61.8 | 55.3 | 46.8 | 39.7 | 24.72 |
| 1.65V    | 1205.2 | 772.6 | 658.4 | 538.9 | 476.3 | 425.7 | 374.4 | 340.6 | 313.4 | 272.1 | 219.4 | 172.9 | 121.5 | 99.5  | 82.6 | 68.8 | 61.0 | 54.5 | 46.0 | 38.9 | 24.48 |
| 1.67V    | 1196.7 | 766.3 | 652.3 | 533.4 | 472.4 | 421.9 | 372.4 | 339.5 | 311.5 | 269.3 | 217.9 | 171.4 | 120.5 | 98.4  | 81.5 | 68.6 | 60.5 | 54.0 | 45.8 | 38.7 | 24.36 |
| 1.70V    | 1185.7 | 755.3 | 641.9 | 523.5 | 463.9 | 413.6 | 367.2 | 334.0 | 306.8 | 264.4 | 213.5 | 169.8 | 119.2 | 97.4  | 81.0 | 68.0 | 60.0 | 53.5 | 44.8 | 37.9 | 24.24 |
| 1.75V    | 1179.4 | 749.0 | 637.8 | 516.6 | 457.3 | 409.8 | 362.6 | 330.1 | 301.9 | 261.5 | 211.4 | 166.5 | 116.9 | 95.8  | 79.5 | 67.0 | 58.9 | 52.5 | 44.3 | 37.5 | 23.76 |
| 1.80V    | 1144.8 | 728.1 | 618.5 | 507.3 | 445.2 | 397.2 | 352.1 | 321.1 | 293.1 | 253.5 | 204.9 | 160.2 | 112.4 | 91.4  | 76.6 | 64.4 | 56.4 | 50.4 | 42.8 | 36.2 | 23.04 |
| 1.85V    | 1079.4 | 691.6 | 586.4 | 480.1 | 421.9 | 376.8 | 334.0 | 303.8 | 278.5 | 241.0 | 194.5 | 153.0 | 107.0 | 87.3  | 72.7 | 61.5 | 54.0 | 47.9 | 40.6 | 34.3 | 20.95 |

**Note** The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact MCA for the latest information.

PERFORMANCE CHARACTERISTICS



BATTERY CONSTRUCTION

| Component | Positive plate                                       | Negative plate  | Container & Cover      | Safety valve                       | Terminal                                   | Separator   | Electrolyte                                  | Pillar seal   |
|-----------|--|---|------------------------|------------------------------------|--|---|--|---|
| Features  | Rare earth alloy grid with good corrosion resistance | Unique anode formula, high purity material, low self-discharge rate | ABS (UL94-V0 optional) | Flame resistance, aging resistance | Female Copper Insert M8 (torque: 10~12N.m) | AGM separator with organic fiber, longer service life | Gradual change gel electrolyte (with patent) | Anti-corrosion elastic O ring, two layers epoxy seal technology |