

### 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

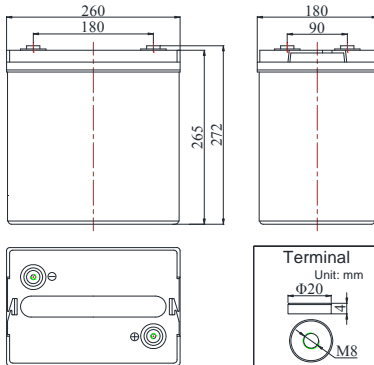
### APPLICATIONS

- 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)       | 260±1   |
| Width(mm)        | 180±1   |
| Height(mm)       | 265±1   |
| Total Height(mm) | 272±1   |
| Weight(kg)       | 34.2±3% |



### COMPLIED STANDARDS

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

### TECHNICAL SPECIFICATIONS



|  |                             |  |
|--|-----------------------------|--|
| Nominal Voltage                                    |                             | 12V(3 cells per unit)  |
| Design Floating Life @25°C                         |                             | 20 Years   |
| Nominal Capacity @25°C(20 hour rate@11.50A,5.25V)  |                             | 230.0Ah  |
| Capacity @25°C                                     | 10 hour rate (21.35A,5.40V) | 213.5Ah  |
|  | 5 hour rate (39.60A,5.25V)  | 198.0Ah  |
|  | 1 hour rate (138.4A,4.80V)  | 138.4Ah  |
| Internal Resistance                                | Full Charged Battery@25°C   | ≤2.8mΩ   |
| Ambient Temperature                                | Discharge                   | -30°C~60°C   |
|  | Charge                      | -30°C~60°C   |
|  | Storage                     | -30°C~60°C   |
| Max. Discharge Current@25°C                        |                             | 2300A(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 57.5A<br>Voltage 6.80-6.90V |
|  | Cycle Use                   | Initial Charging Current Less than 57.5A<br>Voltage 7.20-7.35V |

### BATTERY DISCHARGE TABLE

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

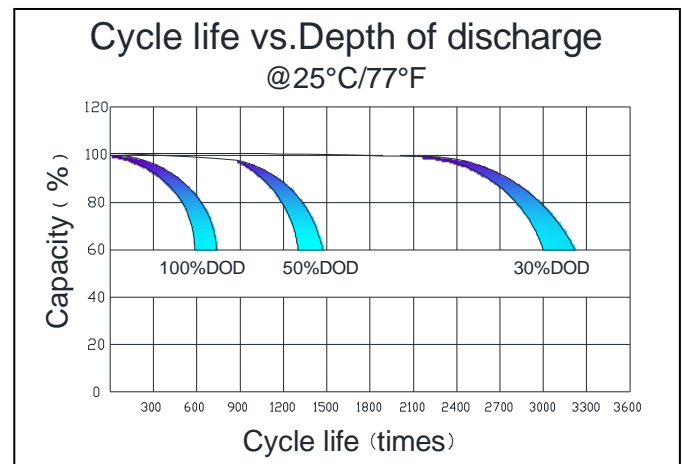
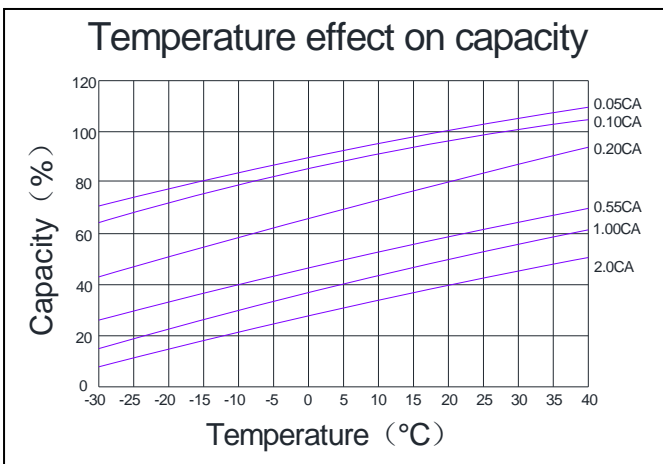
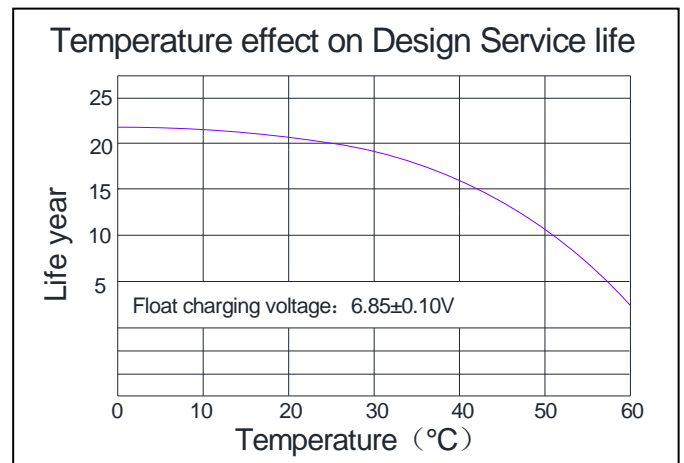
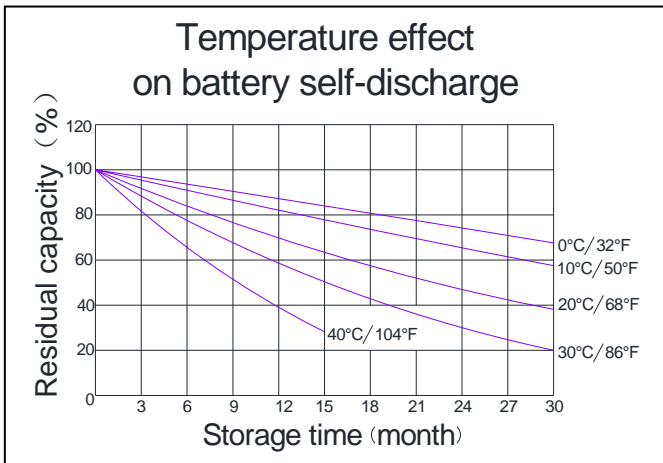
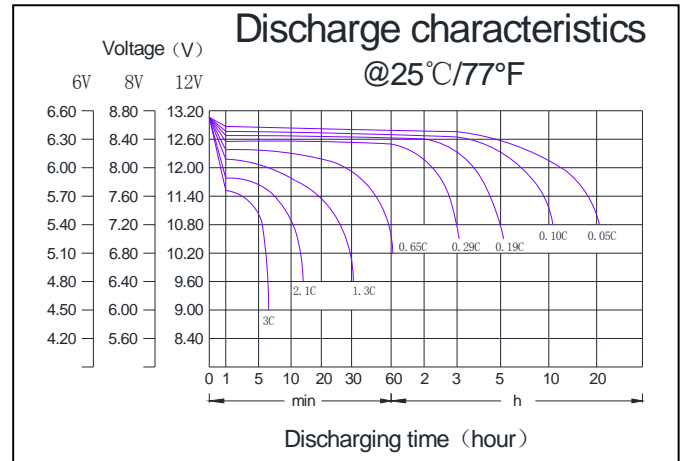
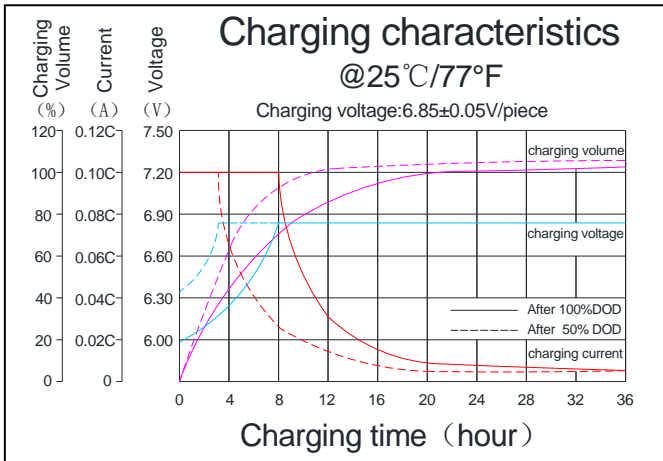
| F.V/Time | 5min  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 60min | 90min | 2h   | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 10h   | 12h   | 20h   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| 1.60V    | 625.4 | 398.8 | 338.8 | 275.9 | 243.2 | 216.6 | 191.2 | 173.8 | 159.0 | 138.4 | 111.7 | 87.8 | 61.7 | 50.5 | 41.8 | 35.1 | 30.9 | 27.6 | 23.44 | 19.71 | 12.19 |
| 1.65V    | 614.1 | 391.4 | 332.7 | 271.4 | 239.0 | 212.7 | 187.6 | 170.6 | 156.1 | 135.6 | 109.5 | 86.1 | 60.5 | 49.5 | 41.1 | 34.3 | 30.4 | 27.1 | 22.99 | 19.35 | 11.96 |
| 1.67V    | 608.0 | 387.7 | 329.0 | 267.1 | 236.9 | 210.8 | 186.6 | 169.8 | 155.3 | 134.4 | 108.8 | 85.4 | 60.0 | 49.0 | 40.6 | 34.1 | 30.1 | 26.9 | 22.76 | 19.21 | 11.85 |
| 1.70V    | 595.7 | 380.6 | 322.7 | 262.3 | 232.5 | 206.6 | 183.5 | 166.8 | 152.7 | 131.6 | 106.5 | 84.6 | 59.5 | 48.5 | 40.3 | 33.8 | 29.9 | 26.6 | 22.29 | 18.89 | 11.75 |
| 1.75V    | 591.2 | 376.7 | 320.3 | 259.0 | 228.9 | 204.8 | 181.1 | 164.6 | 150.6 | 130.2 | 105.5 | 82.9 | 58.2 | 47.8 | 39.6 | 33.3 | 29.4 | 26.1 | 22.05 | 18.58 | 11.50 |
| 1.80V    | 572.5 | 364.6 | 309.3 | 253.2 | 222.1 | 198.2 | 175.8 | 159.8 | 146.1 | 126.2 | 102.3 | 79.6 | 56.0 | 45.5 | 38.1 | 32.1 | 28.1 | 25.1 | 21.35 | 17.97 | 11.16 |
| 1.85V    | 538.3 | 343.8 | 291.1 | 237.6 | 208.5 | 186.4 | 165.1 | 150.1 | 137.4 | 119.0 | 96.1  | 75.4 | 52.8 | 43.1 | 35.8 | 30.4 | 26.6 | 23.6 | 20.04 | 16.89 | 10.14 |

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    | 1171.9 | 751.8 | 638.8 | 522.8 | 462.7 | 413.8 | 365.4 | 333.1 | 304.8 | 265.5 | 214.0 | 168.6 | 118.5 | 96.8 | 80.1 | 67.2 | 59.2 | 53.0 | 44.8 | 38.0 | 23.69 |
| 1.65V    | 1155.0 | 740.4 | 630.9 | 516.4 | 456.4 | 408.0 | 358.8 | 326.4 | 300.3 | 260.8 | 210.3 | 165.7 | 116.5 | 95.3 | 79.1 | 65.9 | 58.5 | 52.3 | 44.1 | 37.3 | 23.46 |
| 1.67V    | 1146.9 | 734.4 | 625.2 | 511.2 | 452.7 | 404.3 | 356.9 | 325.3 | 298.5 | 258.1 | 208.8 | 164.3 | 115.5 | 94.3 | 78.1 | 65.7 | 58.0 | 51.8 | 43.9 | 37.1 | 23.35 |
| 1.70V    | 1136.3 | 723.9 | 615.1 | 501.7 | 444.6 | 396.4 | 351.9 | 320.1 | 294.0 | 253.3 | 204.6 | 162.8 | 114.2 | 93.3 | 77.6 | 65.2 | 57.5 | 51.3 | 42.9 | 36.4 | 23.23 |
| 1.75V    | 1130.3 | 717.8 | 611.2 | 495.1 | 438.3 | 392.7 | 347.5 | 316.4 | 289.3 | 250.6 | 202.6 | 159.5 | 112.0 | 91.8 | 76.2 | 64.2 | 56.5 | 50.3 | 42.5 | 35.9 | 22.77 |
| 1.80V    | 1097.1 | 697.8 | 592.8 | 486.2 | 426.7 | 380.6 | 337.4 | 307.7 | 280.9 | 242.9 | 196.4 | 153.5 | 107.8 | 87.6 | 73.4 | 61.7 | 54.0 | 48.3 | 41.1 | 34.7 | 22.08 |
| 1.85V    | 1034.5 | 662.8 | 562.0 | 460.1 | 404.3 | 361.1 | 320.1 | 291.1 | 266.9 | 230.9 | 186.4 | 146.6 | 102.5 | 83.6 | 69.7 | 59.0 | 51.8 | 45.9 | 38.9 | 32.8 | 20.07 |

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 |