

General features for MPE Series (Deep-cycle) battery

- * Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- * Computer designed lead, calcium tin alloy grid for high power density.
- * UL-recognized component.
- * Long service life, float or cyclic applications.
- * Maintenance-free operation.
- * Low self discharge.
- * Case and cover are available in both standard and flame retardant ABS (Standard : UL94V0).



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MPE12-44 (12V44Ah)

Specifications

| | | | |
|-------------------------------|--------------|----------------------|----------------------|
| Nominal Voltage | | 12V | |
| Rated capacity (10 hour rate) | | 44Ah | |
| Dimensions (±2mm) | Total Height | T16 | 171 mm (6.73 inches) |
| | | T9 | 171 mm (6.73 inches) |
| | Height | 171 mm (6.73 inches) | |
| | Length | 197 mm (7.73 inches) | |
| | Width | 166 mm (6.54 inches) | |
| Weight Approx (±3%) | | 13.2Kg (29.1 lbs) | |

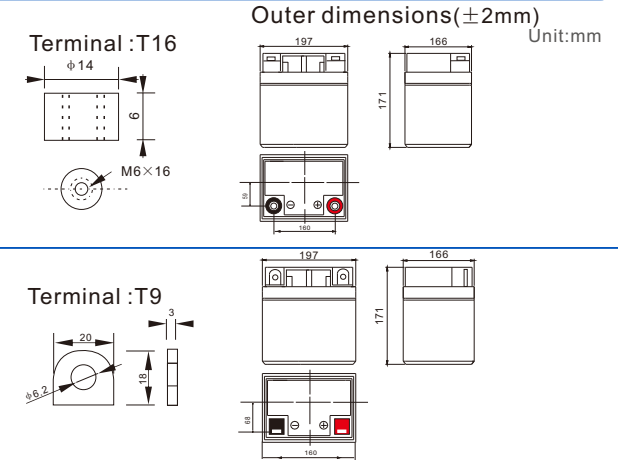
Battery picture and construction



Battery Construction

| | | | | |
|--------------|----------------------|----------------|--------------|----------|
| Component | Positive plate | Negative plate | Container | Cover |
| Raw material | Lead dioxide | Lead | ABS | ABS |
| Component | Electrolyte | Separator | Safety valve | Terminal |
| Raw material | Dilute sulfuric acid | Fiberglass | Rubber | Copper |

Outer dimension and terminal



Characteristics

| | | |
|---|------------------------------------|---|
| Capacity 25°C(77°F) | 10 hour rate (4.4 A, 10.8V) | 44Ah |
| | 5 hour rate (7.0A, 10.5V) | 35Ah |
| | 1 hour rate (26.4A, 9.6V) | 26.4Ah |
| Internal Resistance | Full charged battery at 25°C(77°F) | Approx 8 mΩ |
| Capacity affected by Temperature (10hour rate) | 40°C (104°F) | 102% |
| | 25°C (77°F) | 100% |
| | 0°C (32°F) | 85% |
| | -15°C (5°F) | 65% |
| Remaining capacity Self-Discharge At 25°C(77°F) | Capacity after 3 month storage | 91% |
| | Capacity after 6 month storage | 82% |
| | Capacity after 12 month storage | 64% |
| Terminal type | | T16 (Option T9) |
| Max. Discharge current 25°C/(77°F) | | 440A (5Seconds) |
| Nominal operating temperature | | 25°C ±5°C(77°F ±9°F) |
| Operating Temperature Range | Discharge | -15°C ~50°C (5°F ~122°F) |
| | Charge | -10°C ~50°C (14°F ~122°F) |
| | Storage | -20°C ~50°C (-4°F ~122°F) |
| Charge methods (constant Voltage) At 25°C(77°F) | Cycle use | Initial Charging Current less than 11A Voltage 14.5-15.0V Temperature compensation:-30mV/°C |
| | Standby use | Voltage 13.5-13.8V Temperature compensation:-18mV/°C |

Constant current discharge (25°C , 77 °F)

Constant power discharge (25°C , 77 °F)

Unit:A

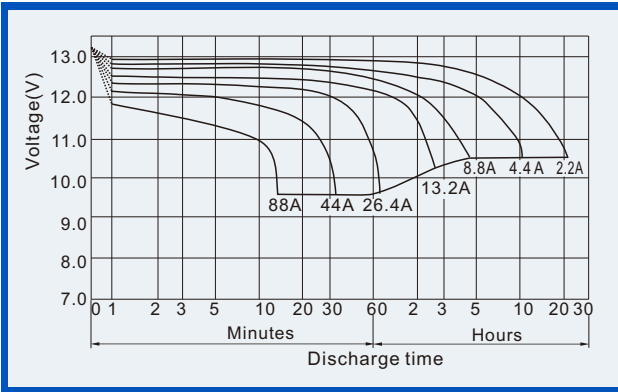
Unit:watts

| Time | 5min | 10min | 15min | 30min | 1h | 2h | 3h | 4h | 5h | 8h | 10h | 20h | |
|--------|------|-------|-------|-------|------|------|------|------|-----|-----|-----|------|------|
| 9.60V | A | 163 | 119 | 84 | 51 | 26.4 | 15 | 11.3 | 8.8 | 7.3 | 5.1 | 4.6 | 2.49 |
| | W | 1729 | 1262 | 888 | 537 | 306 | 178 | 131 | 102 | 84 | 59 | 53 | 28.9 |
| 10.20V | A | 143 | 108 | 75 | 48.0 | 24.8 | 14.7 | 11.0 | 8.6 | 7.1 | 5.0 | 4.5 | 2.43 |
| | W | 1592 | 1201 | 830 | 532 | 287 | 170 | 127 | 99 | 83 | 58 | 52 | 28.2 |
| 10.50V | A | 138 | 103 | 70 | 47 | 24.0 | 14.3 | 10.7 | 8.4 | 7.0 | 5.0 | 4.4 | 2.40 |
| | W | 1567 | 1168 | 798 | 529 | 278 | 166 | 124 | 98 | 82 | 58 | 52 | 27.8 |
| 10.80V | A | 133 | 98 | 66 | 45 | 23.0 | 14.0 | 10.5 | 8.3 | 6.9 | 4.8 | 4.4 | 2.38 |
| | W | 1547 | 1137 | 768 | 528 | 270 | 163 | 122 | 96 | 80 | 56 | 51 | 27.7 |
| 11.10V | A | 128 | 92 | 62 | 44 | 22.0 | 13.6 | 10.1 | 8.1 | 6.7 | 4.7 | 4.18 | 2.26 |
| | W | 1518 | 1100 | 733 | 524 | 267 | 162 | 120 | 95 | 80 | 56 | 50 | 26.9 |

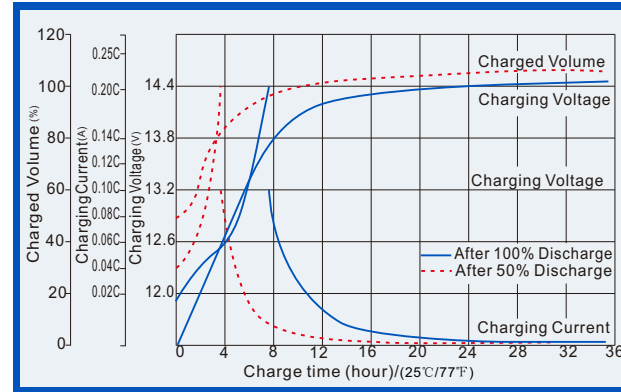
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

Deep Cycle Battery (VRLA Battery, AGM technology) Maintenance-free Sealed Lead Acid Rechargeable Battery

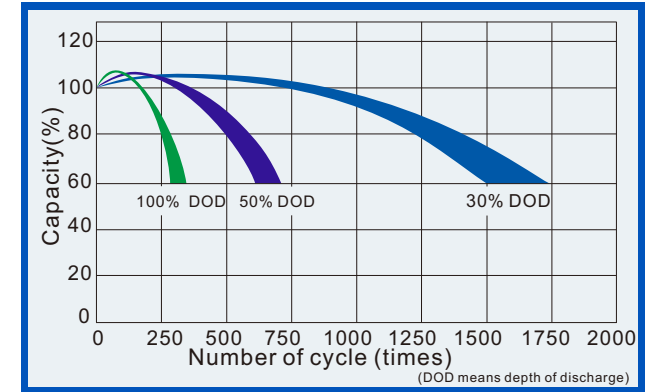
Discharge characteristics (25°C, 77°F)



Charge characteristics (25°C, 77°F)



Life characteristics of Cyclic Use (25°C, 77°F)



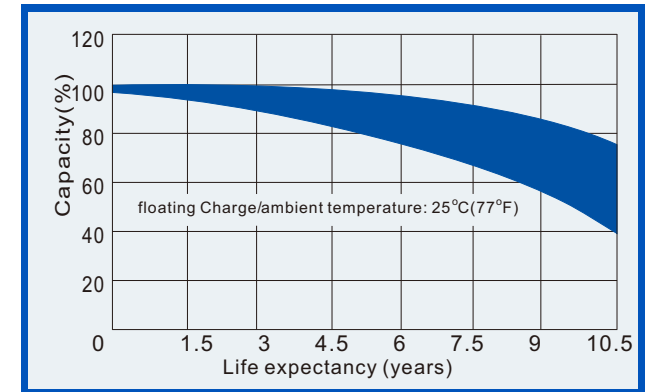
Effect of Temperature on capacity



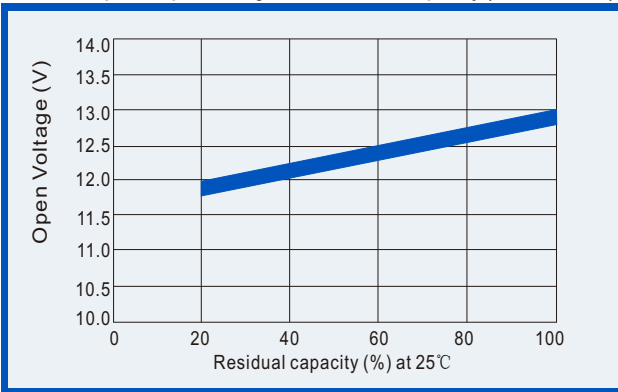
Self-discharge characteristics



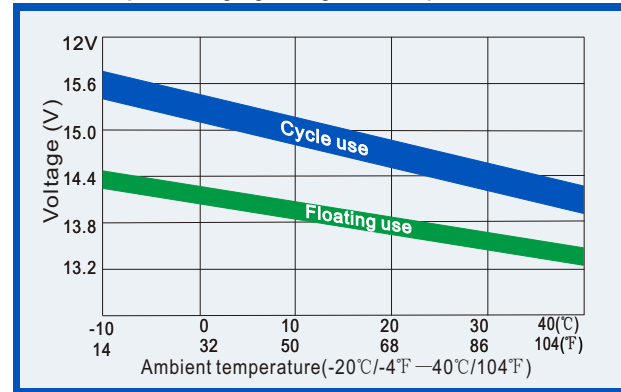
Life Characteristics of standby use (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

