

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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MPE12-40 (12V40Ah)

Specifications

| | | | |
|-------------------------------|--------------|----------------------|----------------------|
| Nominal Voltage | | 12V | |
| Rated capacity (10 hour rate) | | 40 Ah | |
| 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%) | | 12.8Kg (28.1 lbs) | |

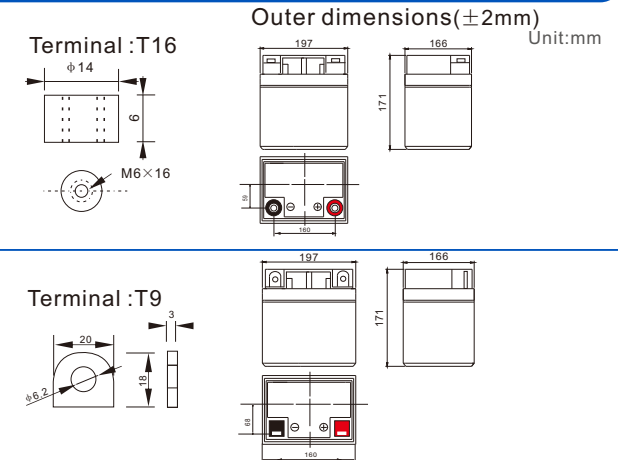
Battery picture and construction



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(4.0 A, 10.8V) 5 hour rate(6.4A, 10.5V) 1 hour rate(24A, 9.6V) | 40Ah 32Ah 24Ah |
| Internal Resistance | Full charged battery at 25°C(77°F) | Approx 8.1mΩ |
| Capacity affected by Temperature (10hour rate) | 40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F) | 102% 100% 85% 65% |
| Remaining capacity Self-Discharge At 25°C(77°F) | Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage | 91% 82% 64% |
| Terminal type | T16 (Option T9) | |
| Max. Discharge current 25°C/(77°F) | 400A (5Seconds) | |
| Nominal operating temperature | 25°C ±5°C(77°F ±9°F) | |
| Operating Temperature Range | Discharge Charge Storage | -15°C ~50°C (5°F ~122°F) -10°C ~50°C (14°F ~122°F) -20°C ~50°C (-4°F ~122°F) |
| Charge methods (constant Voltage) At 25°C(77°F) | Cycle use Standby use | Initial Charging Current less than 10A Voltage 14.5-15.0V Temperature compensation:-30mV/°C 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

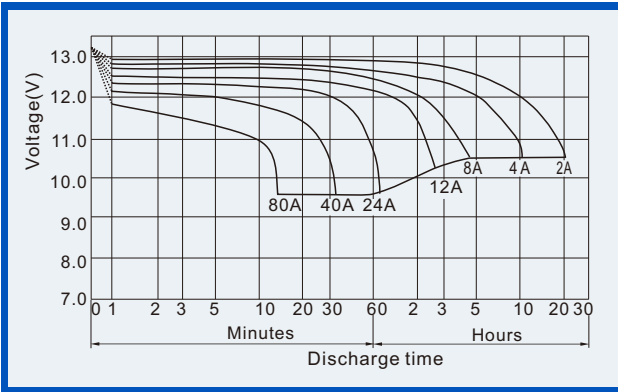
Unit:watts

| Time | 5min | 10min | 15min | 30min | 1h | 2h | 3h | 4h | 5h | 8h | 10h | 20h |
|--------|------|-------|-------|-------|------|------|------|------|-----|-----|------|------|
| 9.60V | A | 128 | 84 | 68 | 45.6 | 24 | 14 | 10.3 | 8 | 6.6 | 4.68 | 2.27 |
| | W | 1322 | 901 | 730 | 490 | 259 | 154 | 114 | 90 | 75 | 54 | 26.4 |
| 10.20V | A | 124 | 76 | 64 | 43.6 | 22.6 | 13.4 | 10 | 7.8 | 6.5 | 4.56 | 2.2 |
| | W | 1325 | 850 | 717 | 489 | 255 | 154 | 11.6 | 91 | 76 | 53 | 25.8 |
| 10.50V | A | 120 | 68 | 56 | 40.8 | 21.8 | 13 | 9.8 | 7.7 | 6.4 | 4.52 | 2.2 |
| | W | 1311 | 775 | 640 | 470 | 253 | 151 | 114 | 90 | 75 | 53 | 26 |
| 10.80V | A | 116 | 64 | 52 | 37.6 | 21.1 | 12.7 | 9.5 | 7.6 | 6.2 | 4.4 | 2.16 |
| | W | 1298 | 740 | 600 | 436 | 246 | 149 | 112 | 89 | 74 | 52 | 25.7 |
| 11.10V | A | 112 | 60 | 48 | 33.6 | 20.4 | 12.4 | 9.2 | 7.4 | 6.1 | 4.28 | 2.04 |
| | W | 1268 | 697 | 560 | 393 | 240 | 147 | 109 | 88 | 73 | 51 | 24.7 |

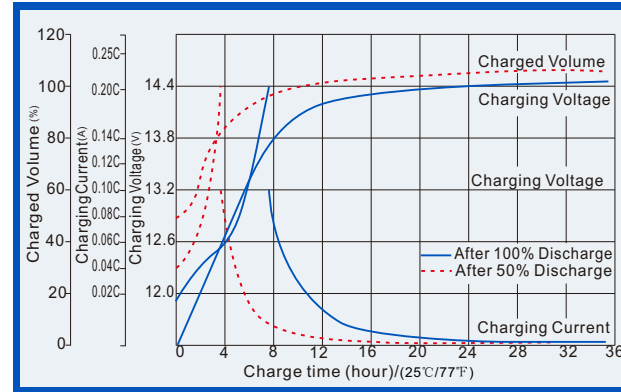
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

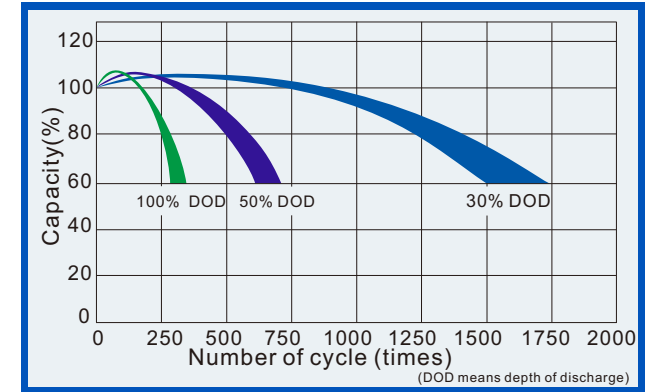
Discharge characteristics (25°C, 77°F)



Charge characteristics (25°C, 77°F)



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



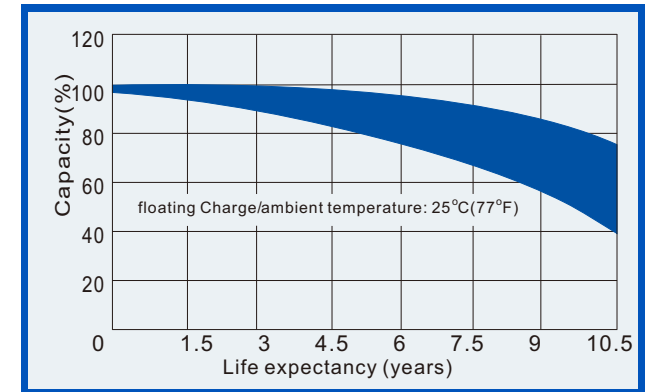
Effect of Temperature on capacity



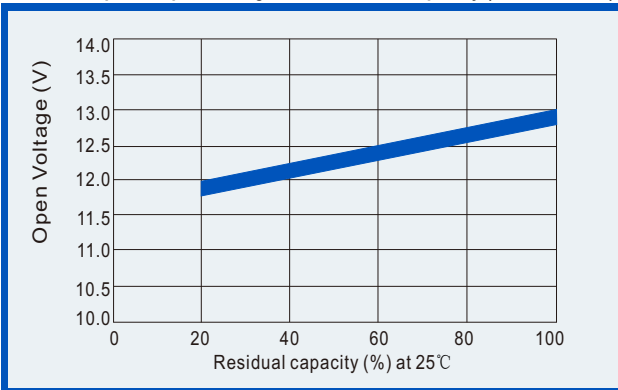
Self-discharge characteristics



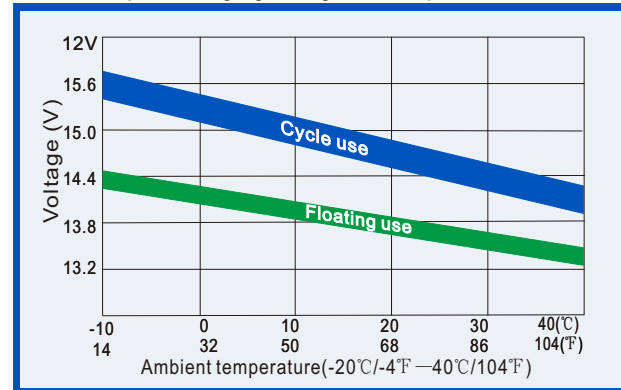
Life Characteristics of standby use (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

