

AccuForce 12V - 40Ah | VRLA Battery



Applications

- Uninterruptible Power Supplies (UPS)
- Electric Power Systems (EPS)
- Emergency backup power supplies
- Electronic apparatus and equipment
- Communication power supplies
- DC power supplies
- Auto control system

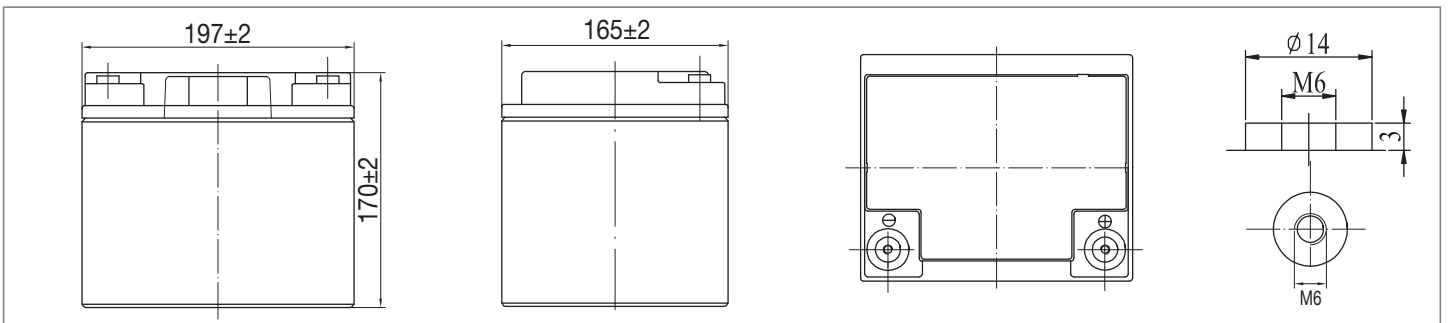
Specifications

| | | |
|---------------------------------|---|---------------|
| Nominal Voltage | 12 V | |
| Number of cells | 6 | |
| Design Life | 10 years | |
| Dimensions | Length | 197 mm |
| | Width | 165 mm |
| | Height | 170 mm |
| | Total Height | 170 mm |
| Approx. Weight | 12.5 kg | |
| Nominal Capacity (25°C) | 20 hours rate (2.10 A, 10.8 V) | 42.0 Ah |
| | 10 hours rate (4.00 A, 10.8 V) | 40.0 Ah |
| | 5 hours rate (7.00 A, 10.5 V) | 35.0 Ah |
| | 1 hour rate (24.80 A, 9.6 V) | 24.8 Ah |
| Max. Discharge Current (25°C) | 400 A (5s) | |
| Internal Resistance | 8.5 mOhms | |
| Fully Charged battery (25°C) | 3% of capacity declined per month at 20°C (average) | |
| Self-Discharge | Discharge : -15°C~50°C | |
| Operating Temperature Range | Charge : -10°C~50°C | |
| | Storage : -20°C~50°C | |
| | Short Circuit Current | |
| Short Circuit Current | 1050 A | |
| Charging Characteristics (25°C) | Boost charging voltage | 2.40-2.45 Vpc |
| | Maximum charging current | 12 A |
| | Temperature compensation | -30 mV/°C |
| | Float charging voltage | 2.23-2.27 Vpc |
| | Temperature compensation | -18 mV/°C |

Battery Construction

| Component | Positive Plate | Negative Plate | Container | Cover | Safety Valve | Terminal | Separator | Electrolyte |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide | Lead | ABS | ABS | Rubber | Copper | Fiberglass | Sulfuric acid |

Dimensions



Constant Current Discharge (Amperes) at 25°C

| End Voltage (Volts/Cell) | 10min | 15min | 30min | 1h | 2h | 3h | 4h | 5h | 8h | 10h | 20h |
|--------------------------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.60 V | 84.0 | 66.0 | 40.0 | 24.8 | 14.6 | 10.2 | 8.36 | 7.14 | 4.90 | 4.07 | 2.14 |
| 1.65 V | 81.5 | 64.4 | 39.2 | 24.4 | 14.5 | 10.1 | 8.31 | 7.10 | 4.87 | 4.06 | 2.13 |
| 1.70 V | 78.1 | 62.0 | 38.0 | 23.8 | 14.4 | 10.1 | 8.26 | 7.05 | 4.83 | 4.05 | 2.13 |
| 1.75 V | 74.8 | 59.9 | 37.1 | 23.3 | 14.2 | 10.0 | 8.20 | 7.00 | 4.80 | 4.03 | 2.11 |
| 1.80 V | 70.6 | 56.8 | 35.7 | 22.6 | 13.8 | 9.70 | 7.95 | 6.79 | 4.66 | 4.00 | 2.10 |

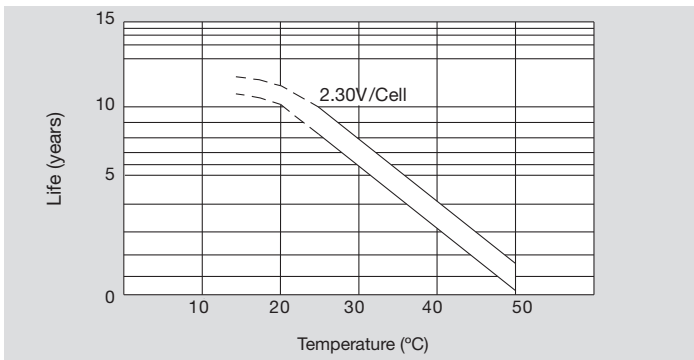
Constant Power Discharge (Watts) at 25°C

| End Voltage (Volts/Cell) | 10min | 15min | 30min | 1h | 2h | 3h | 4h | 5h | 8h | 10h | 20h |
|--------------------------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|
| 1.60 V | 907 | 725 | 449 | 283 | 169 | 120 | 98.4 | 84.4 | 58.2 | 48.6 | 25.7 |
| 1.65 V | 880 | 707 | 440 | 278 | 168 | 119 | 97.8 | 83.9 | 57.8 | 48.5 | 25.6 |
| 1.70 V | 844 | 681 | 426 | 271 | 167 | 118 | 97.1 | 83.3 | 57.4 | 48.4 | 25.5 |
| 1.75 V | 807 | 658 | 416 | 266 | 164 | 118 | 96.4 | 82.7 | 57.0 | 48.1 | 25.4 |
| 1.80 V | 762 | 623 | 401 | 258 | 160 | 114 | 93.5 | 80.3 | 55.3 | 47.8 | 25.2 |

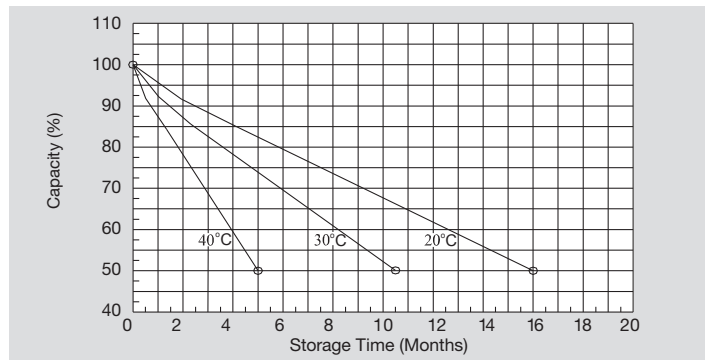
(Note) The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

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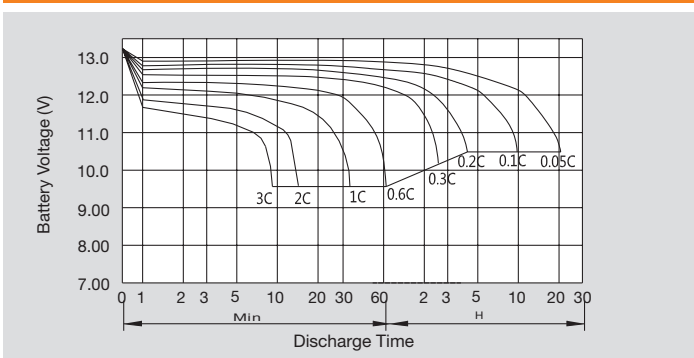
Temperature Effects on Float Life



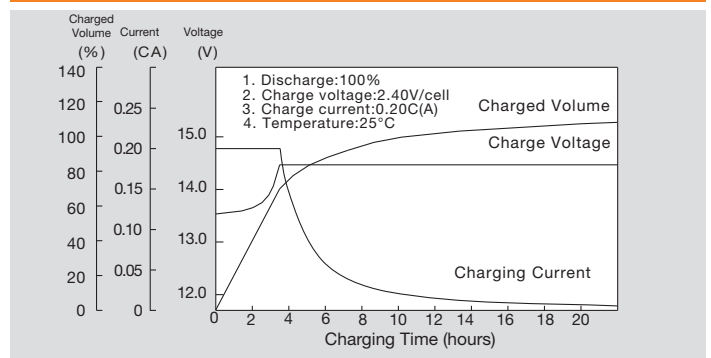
Self Discharge Characteristics



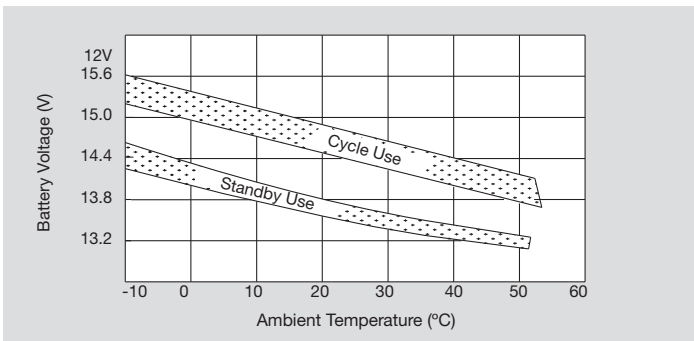
Discharge Characteristics (25°C)



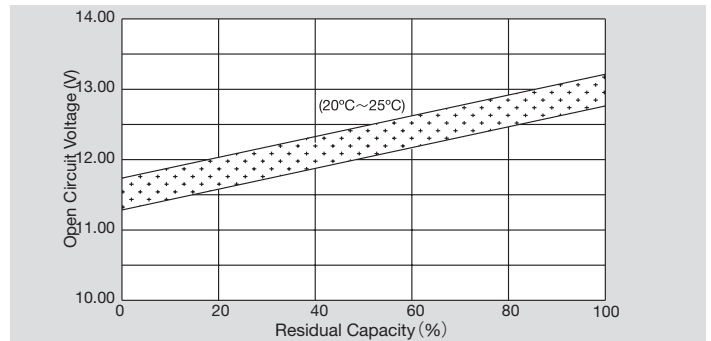
Charging Characteristics (25°C)



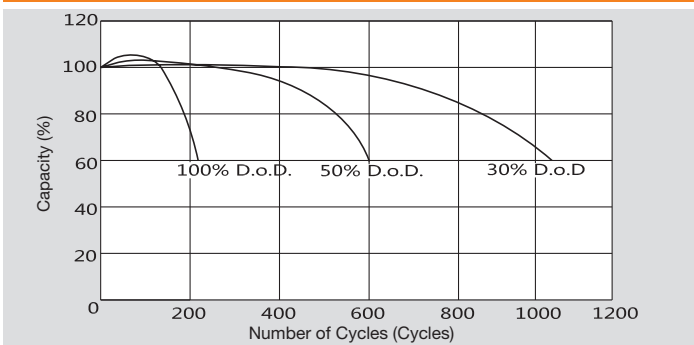
Relationship Between Charging Voltage and Temperature



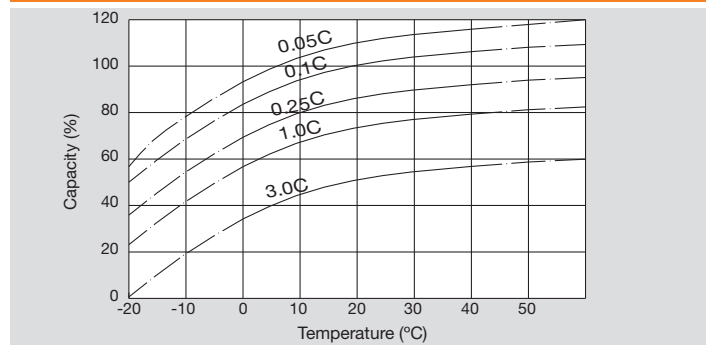
Relationship Between OCV and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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