

SPA 6 - 12 | 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

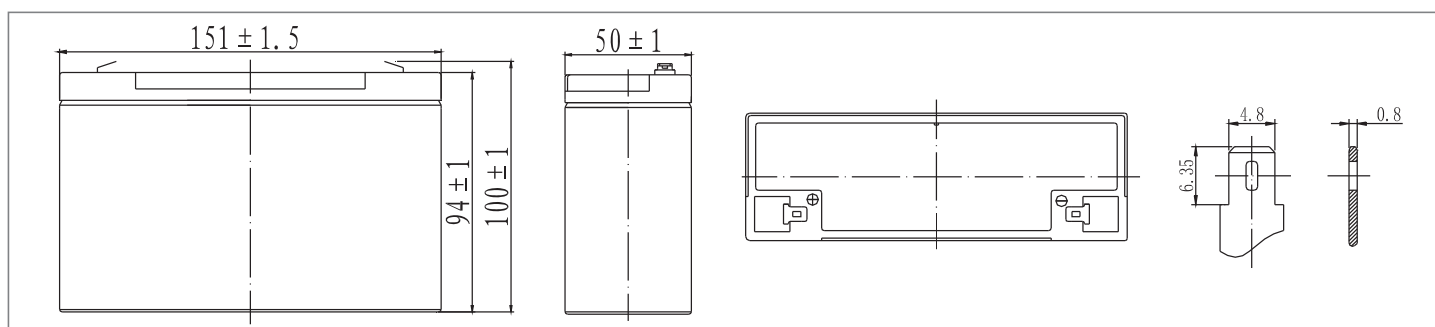
Specifications

| | | |
|--------------------------------|---|---------------|
| Nominal Voltage | 6 V | |
| Number of cells | 3 | |
| Design Life | 10 years | |
| Dimensions | Length | 151 mm |
| | Width | 50 mm |
| | Height | 94 mm |
| | Total Height | 100 mm |
| Approx. Weight | 1.70 kg | |
| Nominal Capacity (25°C) | 20 hours rate (0.60 A, 5.25 V) | 12.0 Ah |
| | 10 hours rate (1.12 A, 5.25 V) | 11.2 Ah |
| | 5 hours rate (2.04 A, 5.25 V) | 10.2 Ah |
| | 1 hour rate (7.80 A, 4.80 V) | 7.8 Ah |
| Max. Discharge Current (25°C) | 180 A (5s) | |
| Max. Charging Current (25°C) | 3.6 A | |
| Internal Resistance | 10 mOhms | |
| Fully Charged battery (25°C) | | |
| Self-Discharge (25°C) | 3% of capacity declined per month (average) | |
| Operating Temperature Range | Discharge | -15~50°C |
| | Charge | -10~50°C |
| | Storage | -20~50°C |
| Short Circuit Current | 342 A | |
| Charge Methods: | Cycle use | 2.40-2.45 Vpc |
| | Temperature compensation | -30 mV/°C |
| Constant Voltage Charge (25°C) | Standby use | 2.25-2.30 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) | 5 min | 10 min | 15 min | 30 min | 1 h | 2 h | 3 h | 4 h | 5 h | 10 h | 20 h |
|--------------------------|-------|--------|--------|--------|------|------|------|------|------|------|------|
| 1.60 V | 28.8 | 22.8 | 12.7 | 7.80 | 4.26 | 3.06 | 2.45 | 2.08 | 1.35 | 1.13 | 0.61 |
| 1.65 V | 27.9 | 22.3 | 12.5 | 7.68 | 4.24 | 3.04 | 2.43 | 2.07 | 1.34 | 1.13 | 0.61 |
| 1.70 V | 26.8 | 21.4 | 12.1 | 7.49 | 4.20 | 3.02 | 2.42 | 2.05 | 1.33 | 1.12 | 0.60 |
| 1.75 V | 25.6 | 20.7 | 11.8 | 7.34 | 4.14 | 3.00 | 2.40 | 2.04 | 1.32 | 1.12 | 0.60 |
| 1.80 V | 24.2 | 19.6 | 11.4 | 7.11 | 4.03 | 2.91 | 2.33 | 1.98 | 1.28 | 1.09 | 0.59 |

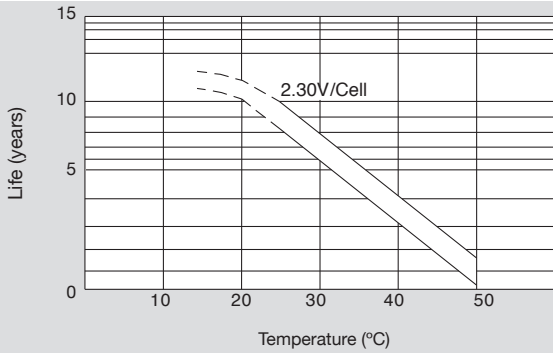
Constant Power Discharge (Watts) at 25°C

| End Voltage (Volts/Cell) | 5 min | 10 min | 15 min | 30 min | 1 h | 2 h | 3 h | 4 h | 5 h | 10 h | 20 h |
|--------------------------|-------|--------|--------|--------|------|------|------|------|------|------|------|
| 1.60 V | 162 | 130 | 72.9 | 45.2 | 24.9 | 18.2 | 14.6 | 12.4 | 8.08 | 6.80 | 3.65 |
| 1.65 V | 158 | 127 | 71.4 | 44.5 | 24.8 | 18.1 | 14.5 | 12.3 | 8.03 | 6.77 | 3.64 |
| 1.70 V | 151 | 122 | 69.2 | 43.4 | 24.6 | 17.9 | 14.4 | 12.3 | 7.98 | 6.74 | 3.62 |
| 1.75 V | 145 | 118 | 67.6 | 42.5 | 24.2 | 17.8 | 14.3 | 12.2 | 7.92 | 6.70 | 3.60 |
| 1.80 V | 136 | 112 | 65.1 | 41.2 | 23.6 | 17.3 | 13.9 | 11.8 | 7.68 | 6.56 | 3.53 |

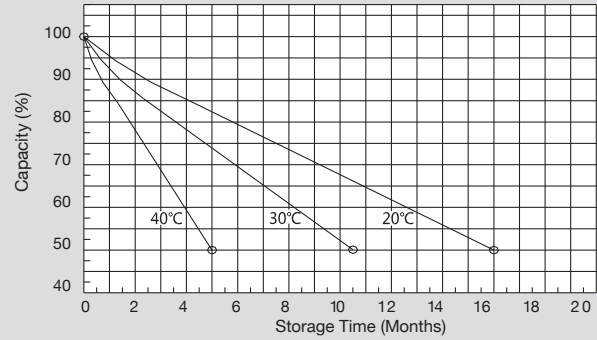
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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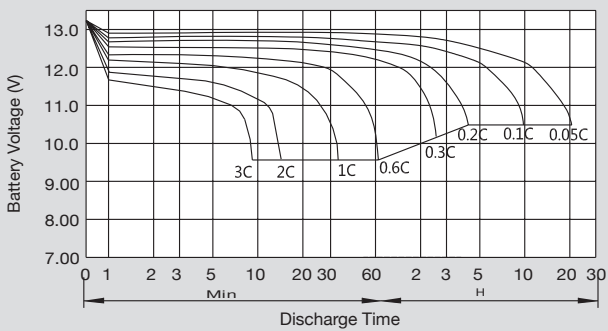
Temperature Effects on Float Life



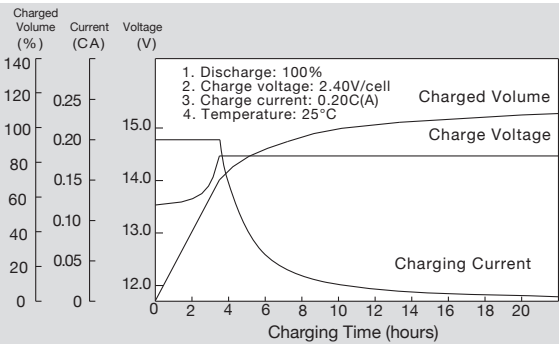
Self Discharge Characteristics



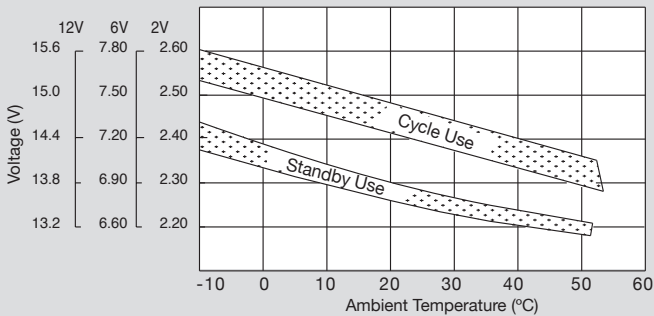
Discharge Characteristics (25°C)



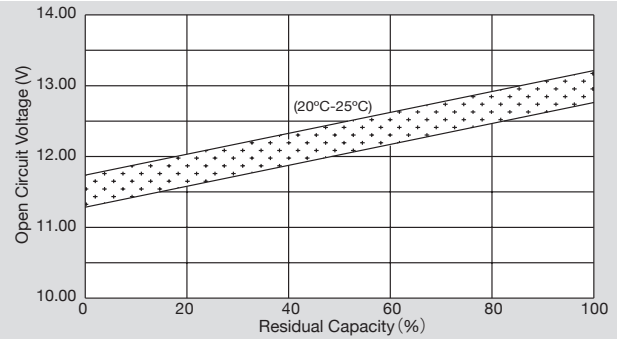
Constant Voltage Charging Characteristic 25°C



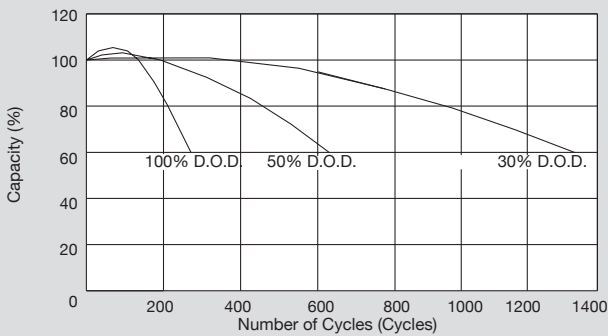
Relationship Between Charging Voltage and Temperature



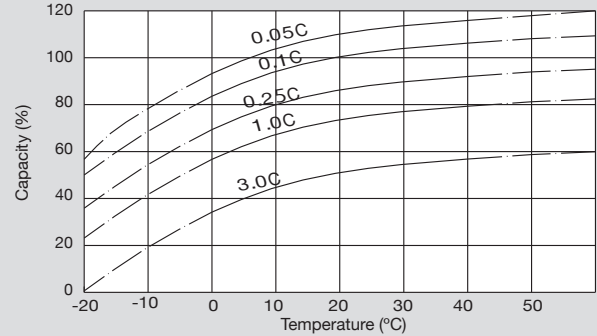
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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