

SPA 12 - 1.9 | VRLA Battery



Specifications

| | | |
|--------------------------------|---|---------------|
| Nominal Voltage | 12 V | |
| Number of cells | 6 | |
| Design Life | 10 years | |
| Dimensions | Length | 178 mm |
| | Width | 35 mm |
| | Height | 61 mm |
| | Total Height | 67 mm |
| Approx. Weight | 0.65 kg | |
| Nominal Capacity (25°C) | 20 hours rate (0.100 A, 10.5 V) | 2.00 Ah |
| | 10 hours rate (0.186 A, 10.5 V) | 1.86 Ah |
| | 5 hours rate (0.340 A, 10.5 V) | 1.70 Ah |
| | 1 hour rate (1.300 A, 9.6 V) | 1.70 Ah |
| Max. Discharge Current (25°C) | 30 A (5s) | |
| Max. Charging Current (25°C) | 0.6 A | |
| Internal Resistance | 65 mOhms | |
| Fully Charged battery (25°C) | | |
| Self-Discharge (25°C) | 3% of capacity declined per month (average) | |
| | Discharge | -15~50°C |
| | Charge | -10~50°C |
| Operating Temperature Range | Storage : -20~50°C | |
| | | |
| Short Circuit Current | 62.5 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 |

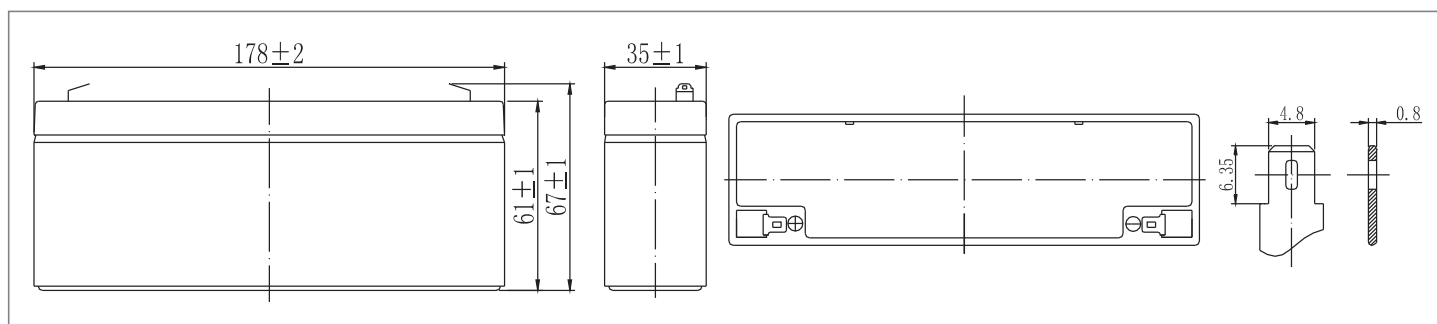
Applications

- 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

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 | 7.60 | 4.80 | 3.80 | 2.12 | 1.30 | 0.71 | 0.51 | 0.41 | 0.35 | 0.189 | 0.102 |
| 1.65 V | 7.37 | 4.66 | 3.71 | 2.08 | 1.28 | 0.71 | 0.51 | 0.41 | 0.34 | 0.188 | 0.101 |
| 1.70 V | 7.07 | 4.46 | 3.57 | 2.01 | 1.25 | 0.70 | 0.50 | 0.40 | 0.34 | 0.187 | 0.101 |
| 1.75 V | 6.76 | 4.27 | 3.45 | 1.97 | 1.22 | 0.69 | 0.50 | 0.40 | 0.34 | 0.186 | 0.100 |
| 1.80 V | 6.38 | 4.03 | 3.27 | 1.89 | 1.19 | 0.67 | 0.49 | 0.39 | 0.33 | 0.182 | 0.098 |

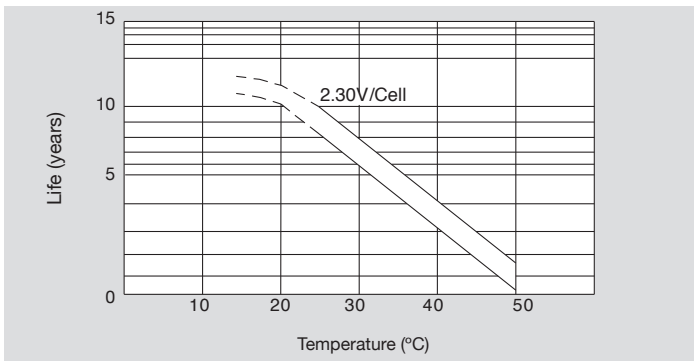
Constant Power Discharge (Watts) at 25°C

| 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 | 84.8 | 54.1 | 43.3 | 24.3 | 15.1 | 8.31 | 6.06 | 4.86 | 4.14 | 2.27 | 1.22 |
| 1.65 V | 82.3 | 52.5 | 42.3 | 23.8 | 14.8 | 8.26 | 6.02 | 4.83 | 4.12 | 2.26 | 1.21 |
| 1.70 V | 78.9 | 50.4 | 40.7 | 23.1 | 14.5 | 8.19 | 5.98 | 4.80 | 4.09 | 2.25 | 1.21 |
| 1.75 V | 75.5 | 48.2 | 39.3 | 22.5 | 14.2 | 8.07 | 5.94 | 4.76 | 4.06 | 2.23 | 1.20 |
| 1.80 V | 71.2 | 45.5 | 37.3 | 21.7 | 13.7 | 7.86 | 5.76 | 4.62 | 3.94 | 2.19 | 1.18 |

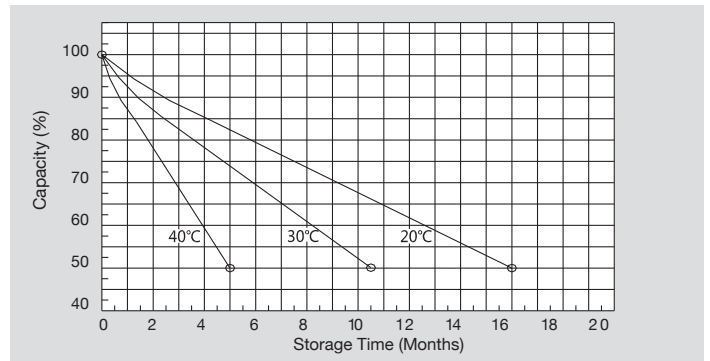
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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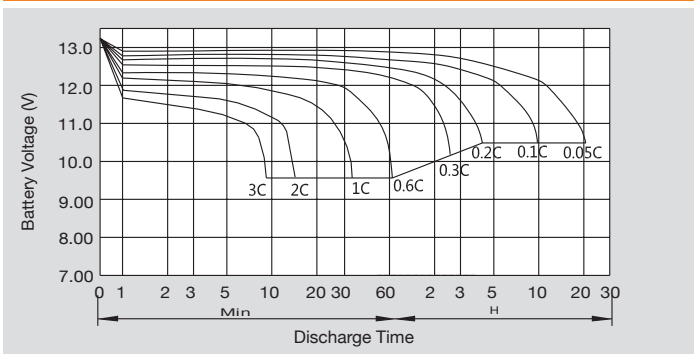
Temperature Effects on Float Life



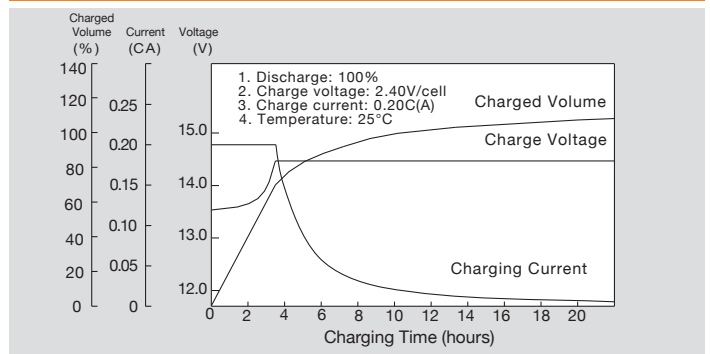
Self Discharge Characteristics



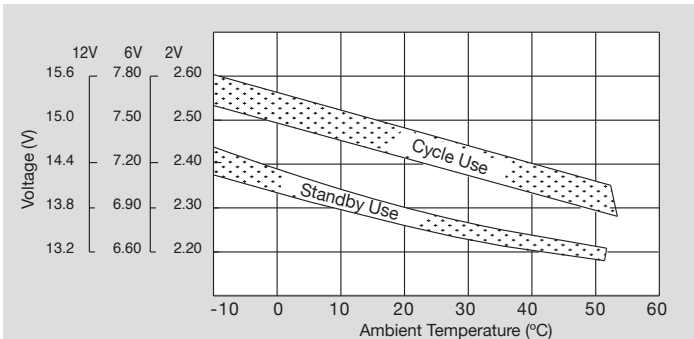
Discharge Characteristics (25°C)



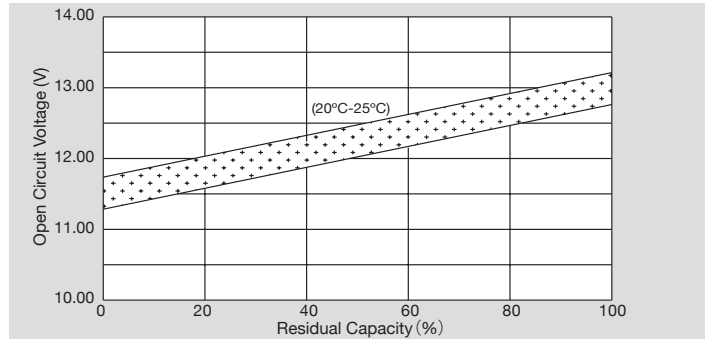
Constant Voltage Charging Characteristic 25°C



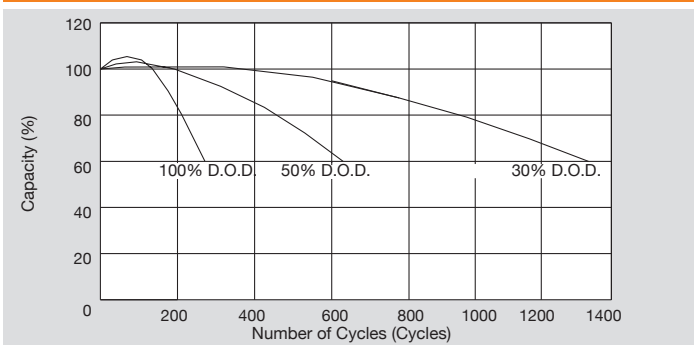
Relationship Between Charging Voltage and Temperature



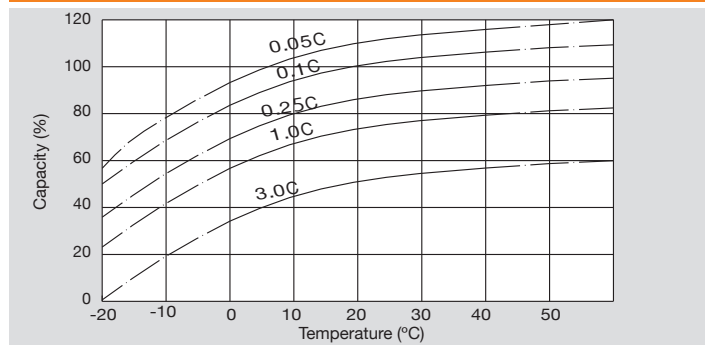
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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