

AP12-7 12V7Ah



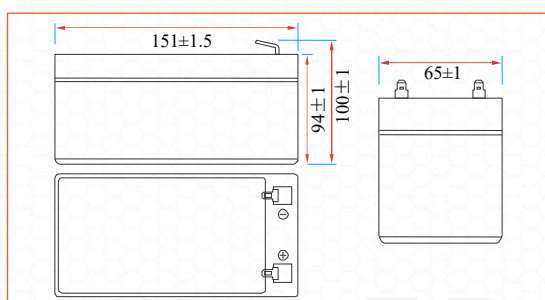
Sealed Maintenance Free / VRLA Battery

Specifications

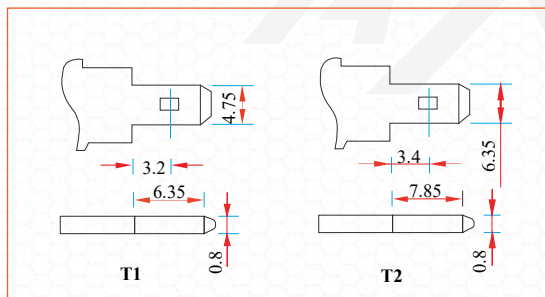
| | | |
|-----------------------|------------------------|----------------------|
| Nominal voltage | 12V (6 cells per unit) | |
| Rated capacity (20HR) | 7Ah/10.5V | |
| Dimensions | Length | 151±1.5mm (5.94inch) |
| | Width | 65±1mm (2.56inch) |
| | Height | 94±1mm (3.70inch) |
| | Total height | 100±1mm (3.94inch) |
| Approx. weight | 2.10kg (4.63lbs)±4% | |



Outer dimensions (mm)



Terminal type (mm)



Characteristics

| | | |
|-------------------------------------------|-------------------------------------------------|----------------------------------------------------------|
| Capacity (25°C) | 20HR (10.5V) | 7Ah |
| | 10HR (10.5V) | 6.5Ah |
| | 1HR (9.60V) | 4.2Ah |
| Terminal type | | T1/T2 |
| Internal resistance (Fully charged, 25°C) | | Approx. 25mΩ |
| Capacity affected by temperature (10HR) | 40°C | 102% |
| | 25°C | 100% |
| | 0°C | 85% |
| | -15°C | 65% |
| Self-discharge (25°C) | 3 months | Remaining capacity: 91% |
| | 6 months | Remaining capacity: 82% |
| | 12 months | Remaining capacity: 65% |
| Nominal operating temperature | | 25°C±3°C (77°F±5°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) |
| Float charging voltage (25°C) | | 13.60 to 13.80V Temperature compensation: -18mV/°C/Block |
| Cyclic charging voltage (25°C) | | 14.50 to 15.00V Temperature compensation: -30mV/°C/Block |
| Maximum charging current | | 2.1A |
| Maximum discharge current | | 105A (5 sec.) |
| Design life | 5 years for floating (25°C) | |
| | Eurobat (20°C): 3-5 years, standard commercial. | |

Construction

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

Constant current discharge characteristics unit: Ampere/Block (at 25°C, 77°F)

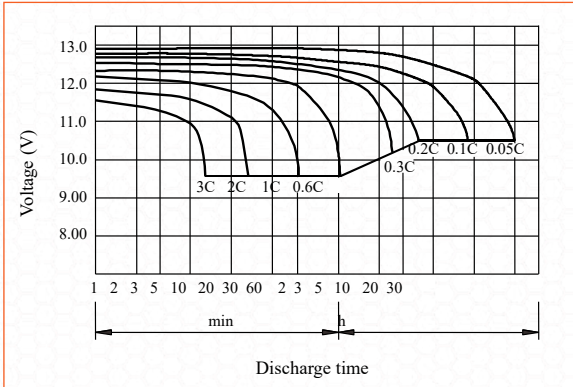
| F.V/Time | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.60V | 26.7 | 16.9 | 13.2 | 7.46 | 4.59 | 2.51 | 1.74 | 1.44 | 1.22 | 0.66 | 0.36 |
| 9.90V | 25.9 | 16.4 | 12.9 | 7.31 | 4.52 | 2.49 | 1.72 | 1.43 | 1.21 | 0.66 | 0.35 |
| 10.2V | 24.9 | 15.8 | 12.4 | 7.08 | 4.40 | 2.47 | 1.71 | 1.42 | 1.21 | 0.66 | 0.35 |
| 10.5V | 23.8 | 15.1 | 12.0 | 6.91 | 4.31 | 2.43 | 1.70 | 1.41 | 1.20 | 0.65 | 0.35 |
| 10.8V | 22.5 | 14.2 | 11.4 | 6.66 | 4.18 | 2.37 | 1.65 | 1.36 | 1.16 | 0.64 | 0.34 |

Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

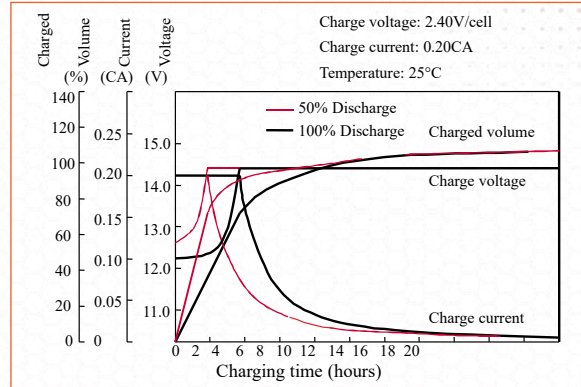
| F.V/Time | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.60V | 298 | 191 | 151 | 85.4 | 53.1 | 29.3 | 20.6 | 17.1 | 14.6 | 7.95 | 4.26 |
| 9.90V | 289 | 185 | 147 | 83.7 | 52.3 | 29.2 | 20.5 | 17.0 | 14.5 | 7.92 | 4.25 |
| 10.2V | 278 | 178 | 142 | 81.2 | 51.0 | 28.9 | 20.3 | 16.9 | 14.4 | 7.88 | 4.23 |
| 10.5V | 266 | 170 | 137 | 79.2 | 50.0 | 28.5 | 20.2 | 16.8 | 14.3 | 7.84 | 4.20 |
| 10.8V | 251 | 161 | 130 | 76.3 | 48.4 | 27.8 | 19.6 | 16.3 | 13.9 | 7.68 | 4.12 |

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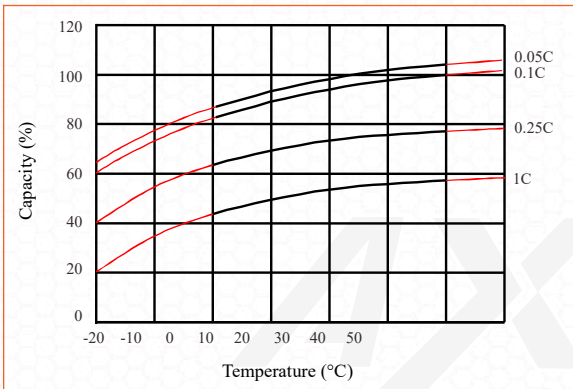
Discharge characteristics (25°C)



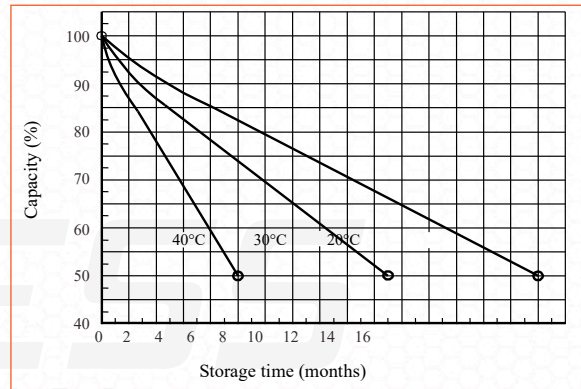
Charging characteristics (25°C)



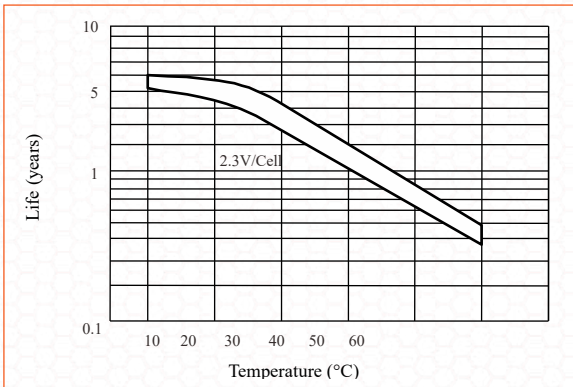
Temperature effects on capacity



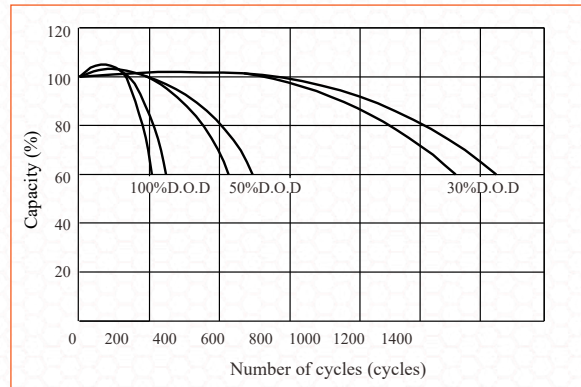
Self-discharge characteristics



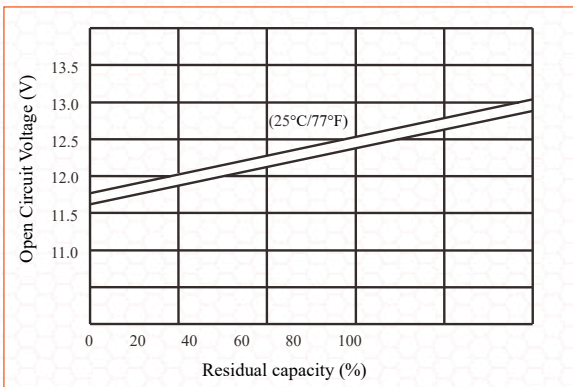
Floating life on temperature



Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Relationship for charging voltage and temperature

