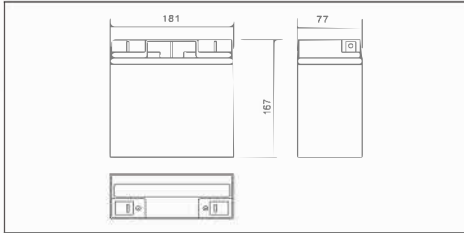


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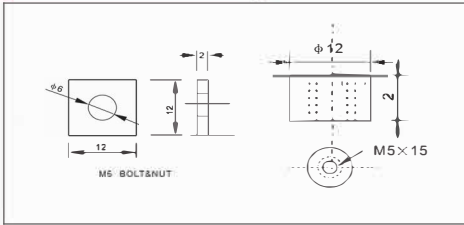
● Specifications

| | | |
|------------------------------|----------------------|----------------------|
| Nominal Voltage | 12V | |
| Rated capacity (20hour rate) | 18Ah | |
| Dimensions | Length | 181 ± 2mm (7.13inch) |
| | Width | 77 ± 1mm (3.03inch) |
| | Height | 167 ± 2mm (6.57inch) |
| | Total Height | 167 ± 2mm (6.57inch) |
| Approx. Weight | 5.0kg (11.0lbs) ± 4% | |

● Outer dimensions (mm)



● Terminal Type (mm)



● 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:A(25°C,77°F)

| F.V/Time | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.60V | 64.9 | 41.1 | 32.1 | 18.1 | 11.1 | 6.09 | 4.21 | 3.49 | 2.97 | 1.61 | 0.86 |
| 9.90V | 63.0 | 39.9 | 31.4 | 17.7 | 11.0 | 6.06 | 4.19 | 3.46 | 2.95 | 1.60 | 0.86 |
| 10.2V | 60.4 | 38.3 | 30.2 | 17.2 | 10.7 | 6.00 | 4.16 | 3.44 | 2.93 | 1.60 | 0.86 |
| 10.5V | 57.8 | 36.6 | 29.2 | 16.8 | 10.5 | 5.91 | 4.13 | 3.42 | 2.91 | 1.59 | 0.85 |
| 10.8V | 54.5 | 34.6 | 27.6 | 16.2 | 10.2 | 5.76 | 4.01 | 3.31 | 2.82 | 1.55 | 0.83 |

● Constant Power Discharge Characteristics Unit:W(25°C,77°F)

| F.V/Time | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.60V | 725 | 464 | 366 | 207 | 129 | 71.3 | 50.1 | 41.5 | 35.4 | 19.3 | 10.4 |
| 9.90V | 703 | 450 | 357 | 203 | 127 | 70.8 | 49.8 | 41.3 | 35.2 | 19.2 | 10.3 |
| 10.2V | 674 | 432 | 344 | 197 | 124 | 70.2 | 49.4 | 41.0 | 35.0 | 19.1 | 10.3 |
| 10.5V | 645 | 413 | 333 | 192 | 121 | 69.2 | 49.1 | 40.7 | 34.7 | 19.0 | 10.2 |
| 10.8V | 609 | 390 | 315 | 185 | 118 | 67.4 | 47.6 | 39.5 | 33.7 | 18.7 | 10.0 |

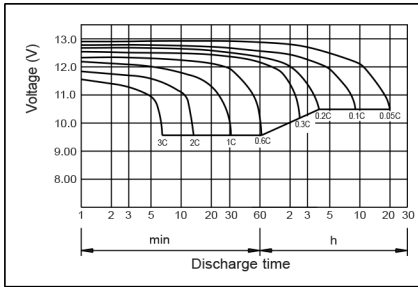


● Characteristics

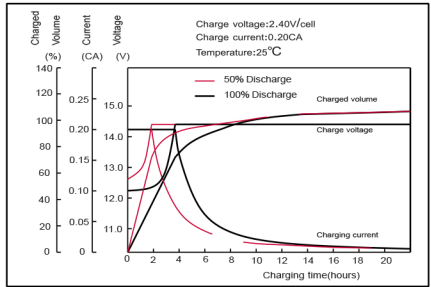
| | | |
|--|---|-------------------------|
| Capacity (25°C) | 20HR(10.5V) | 18Ah |
| | 10HR(10.5V) | 16Ah |
| | 1HR(9.60V) | 10.5Ah |
| Terminal type | T3/T12 | |
| Internal resistance (Fully charged,25°C) | Approx.17m Ω | |
| Capacity affected by temperature (20HR) | 40°C | 102% |
| | 25°C | 100% |
| | 0°C | 85% |
| | -15°C | 65% |
| Self-discharge (25°C) | 3month | Remaining Capacity:91% |
| | 6month | Remaining Capacity:82% |
| | 12month | 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) | 13.50 to 13.80V Temperature compensation: -18mV/°C | |
| Cyclic charging voltage(25°C) | 14.50 to 15.00V Temperature compensation: -30mV/°C | |
| Maximum charging current | 5.1A | |
| Maximum discharge current | 255A(5 sec.) | |
| Designed floating life(20°C) | 5 years | |

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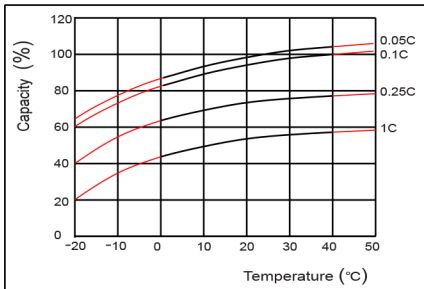
● Discharge characteristics(25°C)



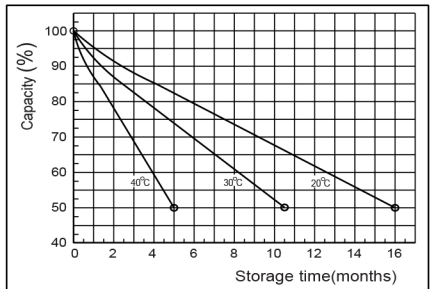
● Charging characteristics (25°C)



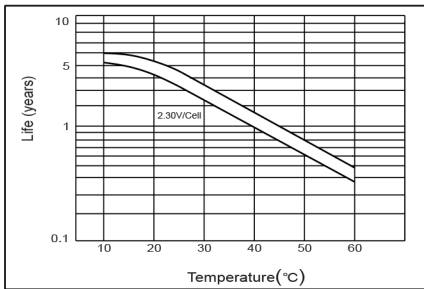
● Effect of temperature on capacity



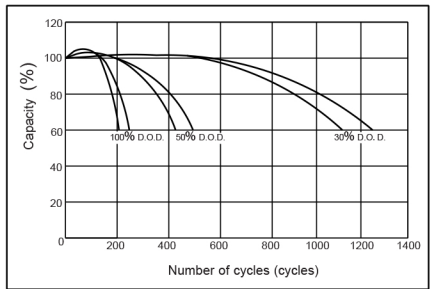
● Self-discharge characteristics



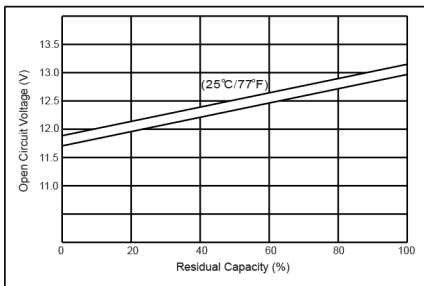
● Floating life on temperature



● Cycle life on D.O.D.(25°C)



● The relationship for OCV and Capacity (25°C)



● The relationship for Charging voltage and Temperature

