

RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION

Nominal Voltage(V) 12V

Nominal Capacity

| | | |
|--------------|-------------------|---------|
| 20 hour rate | (1.10A to 10.50V) | 22.00Ah |
| 10 hour rate | (2.09A to 10.50V) | 20.90Ah |
| 5 hour rate | (3.74A to 10.20V) | 18.70Ah |
| 1 C | (22A to 9.60V) | 12.47Ah |
| 3 C | (66A to 9.60V) | 8.80Ah |

Weight Approx. 6.9kg (15.18Lbs.)

Internal Resistance (at 1KHz) Approx. 9 mΩ

Maximum Discharge Current for

5 seconds: 330A

Charging Methods at 25°C (77°F)

| | |
|----------------------------|---------------|
| Cycle use: | |
| Charging Voltage | 14.7 to 14.8V |
| Coefficient -5.0mV/°C/cell | |
| Maximum Charging Current: | 6.6A |
| Standby use: | |
| Float Charging Voltage | 13.5 to 13.8V |
| Coefficient -3.0mV/°C/cell | |

Operating Temperature Range

| | |
|-----------|-----------------------------|
| Charge | -15°C (5°F) to 40°C (104°F) |
| Discharge | -15°C (5°F) to 50°C (122°F) |
| Storage | -15°C (5°F) to 40°C (104°F) |

Charge Retention (shelf life) at 20°C (68°F)

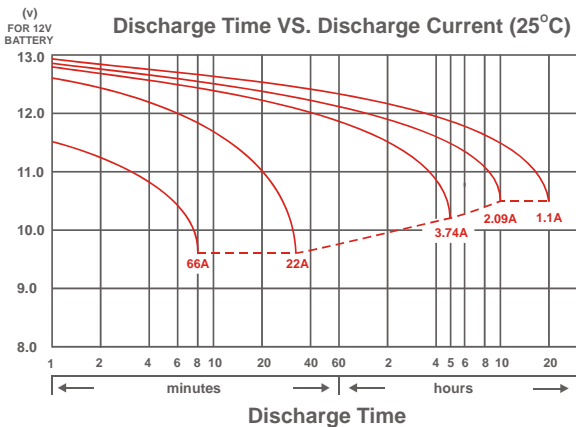
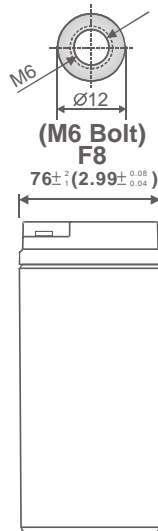
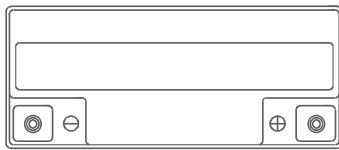
| | |
|---------|-----|
| 1 month | 92% |
| 3 month | 90% |
| 6 month | 80% |

Case Material ABS UL94 HB

Terminal F8

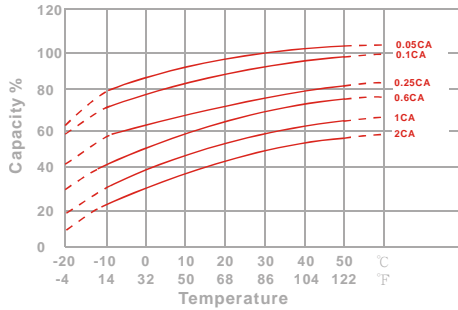
Description of torque value of hard ware for the terminals:

| | |
|--------------------------------|------------------------|
| Recommended torque value | M6: 7 N-m (71 kgf-cm) |
| Maximum allowable torque value | M6: 10N-m (102 kgf-cm) |

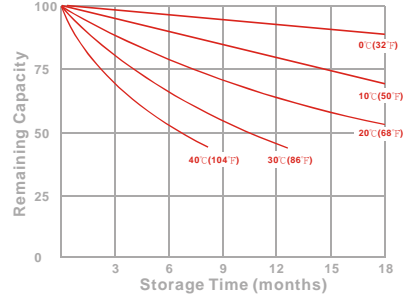


CHARACTERISTIC & PERFORMANCE DATA

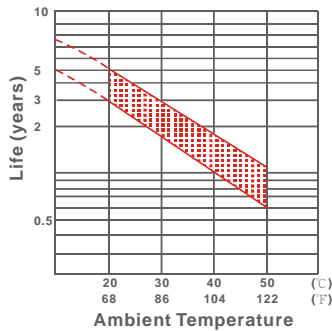
Effect of Temperature on Capacity 25°C(77°F)



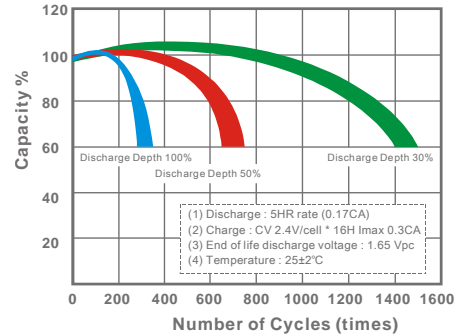
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



- PERFORMANCE DATA

Discharge Rates in Watts per Cell to Various End Voltages at 25°C(77°F)

| End Voltage | | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time | | | | | | | | |
| 5 | min | 136 | 152 | 164 | 171 | 173 | 175 | 177 |
| 10 | min | 88.3 | 99.7 | 107 | 112 | 113 | 114 | 116 |
| 15 | min | 67.4 | 75.1 | 80.1 | 83.2 | 84.1 | 85.0 | 85.8 |
| 30 | min | 39.8 | 43.9 | 46.6 | 48.3 | 48.8 | 49.3 | 49.7 |
| 60 | min | 25.2 | 26.0 | 26.7 | 27.1 | 27.3 | 27.4 | 27.6 |
| 120 | min | 15.2 | 15.5 | 15.7 | 15.9 | 16.0 | 16.1 | 16.2 |
| 180 | min | 10.8 | 11.1 | 11.3 | 11.4 | 11.5 | 11.5 | 11.6 |
| 240 | min | 8.60 | 8.87 | 9.02 | 9.14 | 9.19 | 9.24 | 9.31 |
| 300 | min | 7.25 | 7.48 | 7.65 | 7.78 | 7.84 | 7.87 | 7.91 |
| 600 | min | 4.12 | 4.32 | 4.47 | 4.57 | 4.60 | 4.63 | 4.67 |
| 1200 | min | 2.20 | 2.28 | 2.35 | 2.41 | 2.42 | 2.44 | 2.45 |

- Discharge Rates in Amperes per Battery to Various End Voltages at 25°C(77°F)

| End Voltage | | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time | | | | | | | | |
| 5 | min | 74.8 | 83.3 | 90.1 | 97.6 | 99.3 | 102 | 105 |
| 10 | min | 48.1 | 54.0 | 57.4 | 59.9 | 60.8 | 61.5 | 62.3 |
| 15 | min | 36.6 | 41.4 | 43.1 | 44.4 | 44.8 | 45.3 | 45.9 |
| 30 | min | 20.0 | 22.1 | 23.5 | 24.2 | 24.4 | 24.7 | 25.1 |
| 60 | min | 12.4 | 12.8 | 13.1 | 13.4 | 13.5 | 13.6 | 13.8 |
| 120 | min | 7.61 | 7.83 | 7.98 | 8.12 | 8.16 | 8.21 | 8.27 |
| 180 | min | 5.32 | 5.51 | 5.64 | 5.75 | 5.79 | 5.83 | 5.88 |
| 240 | min | 4.17 | 4.33 | 4.45 | 4.54 | 4.58 | 4.61 | 4.65 |
| 300 | min | 3.56 | 3.68 | 3.77 | 3.84 | 3.87 | 3.89 | 3.92 |
| 600 | min | 2.06 | 2.14 | 2.21 | 2.26 | 2.27 | 2.29 | 2.31 |
| 1200 | min | 1.07 | 1.12 | 1.16 | 1.19 | 1.20 | 1.21 | 1.22 |

All data on the spec. sheet is an average value:

The tolerance range : $X < 6\text{min}$ (+15%~-15%), $6\text{min} \leq X < 10\text{min}$ (+12%~-12%), $10\text{min} \leq X < 60\text{min}$ (+8%~-8%), $X \geq 60\text{min}$ (+5%~-5%)