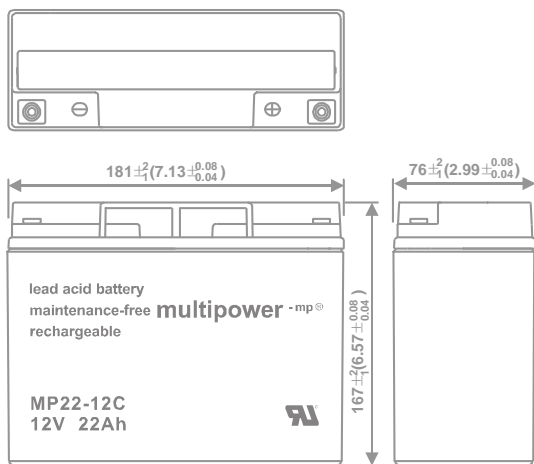
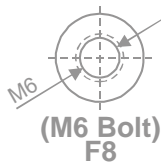


RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION



MP22-12C

Nominal Voltage (V) 12V

Nominal Capacity

| | | |
|--------------|-------------------|---------|
| 20 hour rate | (1.1A 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. 6.7kg (14.74lbs)

Internal Resistance (at 1KHz) Approx. 8 mΩ

Maximum Discharge Current for

5 seconds: 330A

Charging Methods at 25°C (77°F)

| | |
|---------------------------|------------------|
| Cycle use: | |
| Charging Voltage | 14.70V to 14.80V |
| Coefficient | -5.0mv/°C/cell |
| Maximum Charging Current: | 6.6A |
| Standby use: | |
| Float Charging Voltage | 13.50V to 13.80V |
| 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

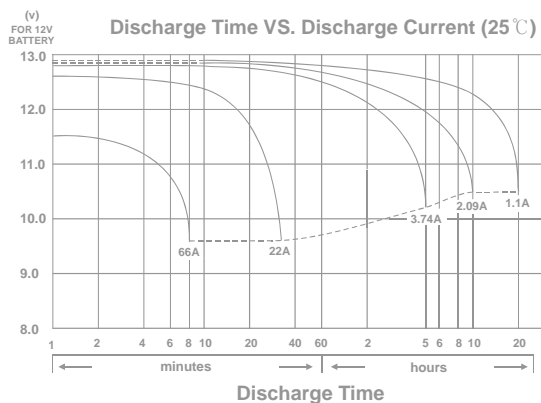
ABS
(UL94 HB flame retardant case / cover)

Terminal

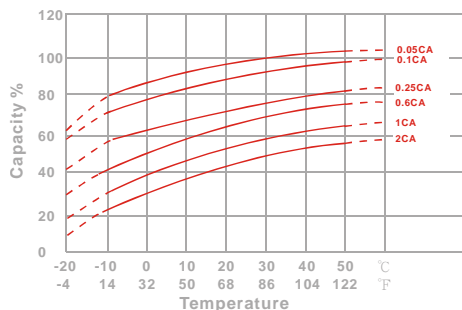
F8

Description of torque value of hard ware for the terminals:

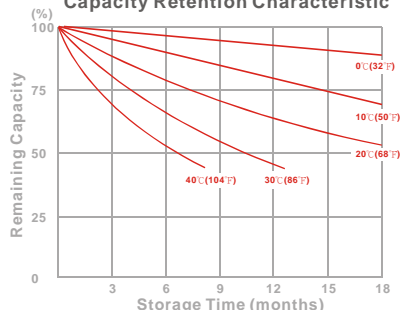
| | |
|--------------------------------|------------------------|
| Recommended torque value | M6: 5.39 N-m (55kg-cm) |
| Maximum allowable torque value | M6: 8.82 N-m (90kg-cm) |



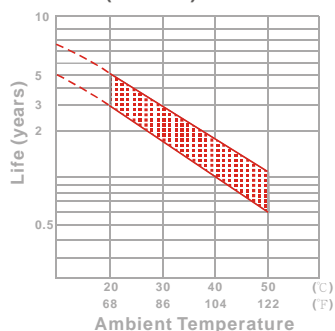
Effect of Temperature on Capacity 25°C (77°F)



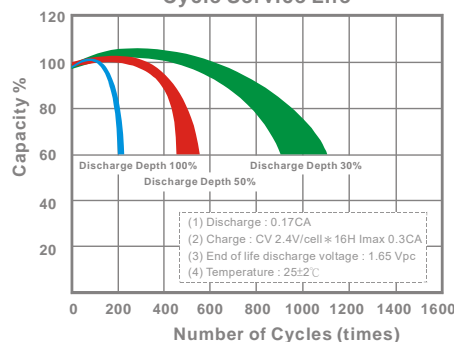
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



- PERFORMANCE DATA

Discharge Rates in Watts 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 | 912 | 1017 | 1086 | 1129 | 1140 | 1153 | 1165 |
| 10 | min | 585 | 653 | 697 | 724 | 731 | 740 | 748 |
| 15 | min | 435 | 481 | 511 | 529 | 534 | 539 | 545 |
| 30 | min | 231 | 256 | 271 | 281 | 284 | 287 | 290 |
| 60 | min | 152 | 155 | 157 | 158 | 159 | 160 | 161 |
| 120 | min | 78.5 | 80.6 | 81.9 | 83.0 | 83.4 | 83.9 | 84.6 |
| 180 | min | 63.2 | 64.7 | 65.6 | 66.4 | 66.7 | 67.0 | 67.5 |
| 240 | min | 50.7 | 51.8 | 52.6 | 53.2 | 53.5 | 53.8 | 54.2 |
| 300 | min | 43.7 | 44.5 | 45.1 | 45.4 | 45.6 | 45.8 | 46.1 |
| 600 | min | 25.8 | 26.4 | 26.7 | 26.8 | 26.9 | 27.0 | 27.2 |
| 1200 | min | 13.1 | 13.5 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 |

- Discharge Rates in Amperes 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 | 74.1 | 82.5 | 89.2 | 96.6 | 98.3 | 101 | 104 |
| 10 | min | 50.9 | 56.8 | 60.1 | 62.6 | 63.5 | 64.2 | 65.0 |
| 15 | min | 37.0 | 41.8 | 43.7 | 45.0 | 45.4 | 45.8 | 46.3 |
| 30 | min | 19.4 | 21.5 | 22.8 | 23.5 | 23.7 | 24.0 | 24.3 |
| 60 | min | 12.1 | 12.5 | 12.8 | 13.0 | 13.1 | 13.2 | 13.4 |
| 120 | min | 6.43 | 6.67 | 6.80 | 6.91 | 6.95 | 6.99 | 7.05 |
| 180 | min | 5.36 | 5.43 | 5.48 | 5.52 | 5.54 | 5.56 | 5.60 |
| 240 | min | 4.29 | 4.34 | 4.38 | 4.41 | 4.43 | 4.45 | 4.48 |
| 300 | min | 3.67 | 3.72 | 3.74 | 3.76 | 3.77 | 3.79 | 3.81 |
| 600 | min | 2.14 | 2.17 | 2.19 | 2.21 | 2.22 | 2.23 | 2.24 |
| 1200 | min | 1.11 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 |

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%)