

multipower - mp®

RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION



MPL28-12I

Nominal Voltage(V) 12V

Nominal Capacity

| | | | | |
|--------------|--------|----|---------|---------|
| 20 hour rate | (1.40A | to | 10.50V) | 28.00Ah |
| 10 hour rate | (2.66A | to | 10.50V) | 26.60Ah |
| 5 hour rate | (4.76A | to | 10.20V) | 23.80Ah |
| 1 C | (28A | to | 9.60V) | 17.73Ah |
| 3 C | (84A | to | 9.60V) | 11.20Ah |

Weight Approx. 9.2kg (20.2Lbs.)

Internal Resistance (at 1KHz) Approx. 9.2 mΩ

Maximum Discharge Current for

5 seconds: 420A

Charging Methods at 25°C (77°F)

Maximum Charging Current: 8.4A

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

F6

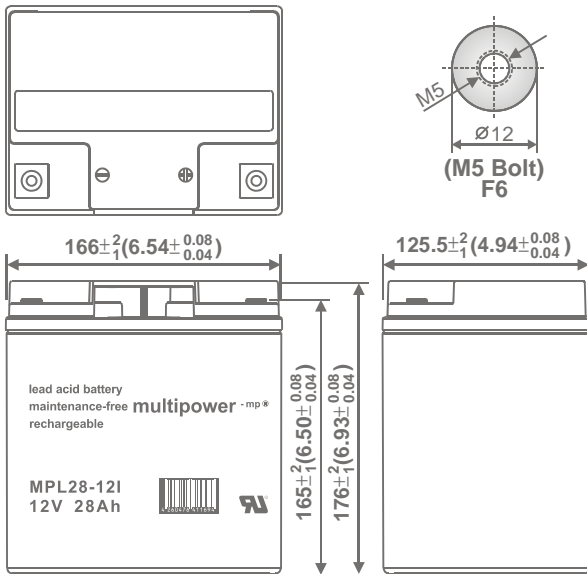
Description of torque value of hard ware for the terminals:

Recommended torque value M5: 4N-m(41kgf-cm)

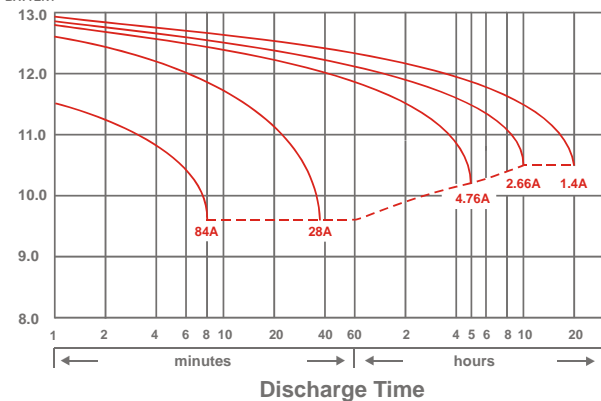
Maximum allowable torque value M5: 6N-m(61kgf-cm)

Design Life

Eurobat (20°C): 10/12 years

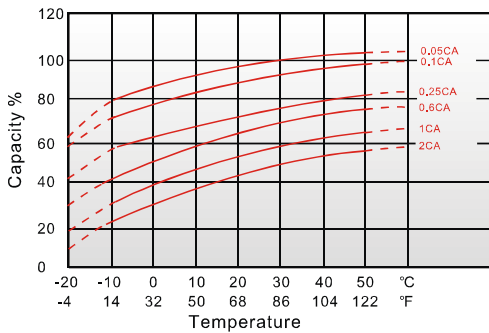


(V) Discharge Time VS. Discharge Current (25°C)
FOR 12V BATTERY

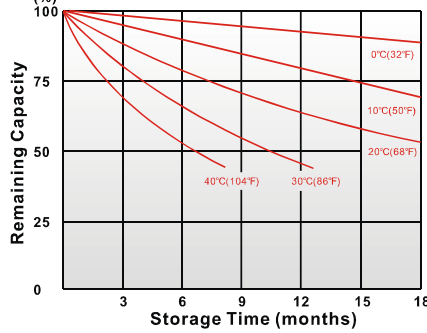


CHARACTERISTIC & PERFORMANCE DATA

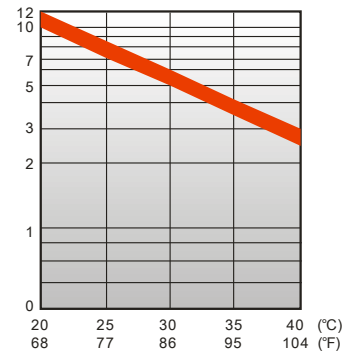
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



Trickle (or float) 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 2 | min | 181 | 210 | 234 | 245 | 255 | 264 | 273 |
| 4 | min | 157 | 172 | 186 | 199 | 211 | 221 | 231 |
| 5 | min | 139 | 161 | 179 | 186 | 191 | 196 | 200 |
| 6 | min | 130 | 156 | 166 | 173 | 180 | 185 | 190 |
| 8 | min | 125 | 139 | 145 | 150 | 155 | 160 | 165 |
| 10 | min | 107 | 118 | 124 | 128 | 133 | 135 | 137 |
| 15 | min | 86.4 | 94.7 | 102 | 104 | 106 | 108 | 110 |
| 20 | min | 76.6 | 82.3 | 83.4 | 84.3 | 85.1 | 85.9 | 86.7 |
| 30 | min | 54.4 | 58.7 | 59.9 | 60.7 | 61.4 | 62.1 | 62.8 |
| 45 | min | 45.4 | 48.5 | 49.4 | 49.9 | 50.3 | 50.6 | 50.9 |
| 60 | min | 35.0 | 36.5 | 36.9 | 37.2 | 37.5 | 37.8 | 38.2 |
| 90 | min | 25.0 | 25.9 | 26.5 | 26.9 | 27.3 | 27.5 | 27.7 |
| 120 | min | 21.0 | 21.9 | 22.3 | 22.5 | 22.6 | 22.8 | 23.0 |
| 180 | min | 15.5 | 16.2 | 16.4 | 16.6 | 16.7 | 16.8 | 16.9 |
| 240 | min | 11.9 | 12.4 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 |
| 300 | min | 10.0 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 |
| 600 | min | 5.56 | 5.72 | 5.85 | 5.86 | 5.88 | 5.89 | 5.91 |
| 1200 | min | 3.00 | 3.03 | 3.09 | 3.11 | 3.12 | 3.14 | 3.15 |

- 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 2 | min | 92.5 | 115 | 133 | 148 | 158 | 167 | 172 |
| 4 | min | 80.5 | 96.5 | 109 | 114 | 119 | 124 | 128 |
| 5 | min | 72.5 | 88.0 | 102 | 107 | 112 | 116 | 119 |
| 6 | min | 70.8 | 83.8 | 90.5 | 96.9 | 103 | 108 | 113 |
| 8 | min | 68.3 | 75.3 | 81.6 | 85.4 | 88.4 | 90.6 | 92.6 |
| 10 | min | 57.1 | 63.9 | 66.2 | 69.6 | 72.4 | 75.2 | 77.7 |
| 15 | min | 44.6 | 49.0 | 52.7 | 54.6 | 56.1 | 57.6 | 58.6 |
| 20 | min | 35.7 | 39.2 | 42.1 | 43.7 | 44.9 | 46.1 | 46.9 |
| 30 | min | 27.8 | 29.9 | 31.0 | 31.9 | 32.6 | 33.2 | 33.4 |
| 45 | min | 21.1 | 22.6 | 23.0 | 24.2 | 24.7 | 24.9 | 25.1 |
| 60 | min | 16.3 | 17.4 | 18.1 | 18.6 | 19.1 | 19.3 | 19.4 |
| 90 | min | 12.6 | 13.6 | 14.0 | 14.4 | 14.7 | 15.0 | 15.2 |
| 120 | min | 10.6 | 11.3 | 11.5 | 11.8 | 11.9 | 12.2 | 12.3 |
| 180 | min | 7.39 | 7.69 | 7.94 | 8.05 | 8.18 | 8.35 | 8.38 |
| 240 | min | 5.97 | 6.09 | 6.23 | 6.34 | 6.41 | 6.48 | 6.51 |
| 300 | min | 4.95 | 5.08 | 5.19 | 5.33 | 5.38 | 5.42 | 5.45 |
| 600 | min | 2.74 | 2.82 | 2.91 | 2.93 | 2.95 | 2.97 | 2.98 |
| 1200 | min | 1.45 | 1.48 | 1.51 | 1.53 | 1.54 | 1.55 | 1.56 |

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%)