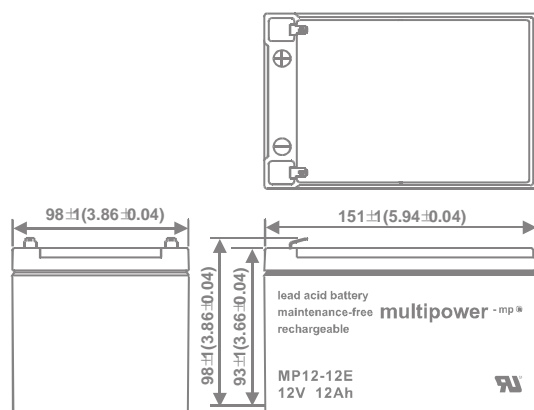
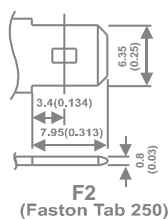
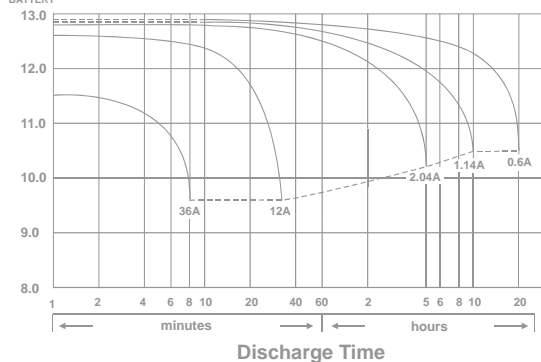


RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION



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



MP12-12E

Nominal Voltage (V) 12V

Nominal Capacity

| | | | | |
|--------------|--------|----|---------|---------|
| 20 hour rate | (0.6A | to | 10.50V) | 12.00Ah |
| 10 hour rate | (1.14A | to | 10.50V) | 11.40Ah |
| 5 hour rate | (2.04A | to | 10.20V) | 10.20Ah |
| 1 C | (12A | to | 9.60V) | 6.80Ah |
| 3 C | (36A | to | 9.60V) | 4.80Ah |

Weight Approx. 4.10kg (9.04lbs)

Internal Resistance (at 1KHz) Approx. 13 mΩ

Maximum Discharge Current for

5 seconds: 180A

Charging Methods at 25°C (77°F)

| | |
|---------------------------|------------------|
| Cycle use: | |
| Charging Voltage | 14.70V to 14.80V |
| Coefficient | -5.0mV/°C/cell |
| Maximum Charging Current: | 3.6A |
| 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)

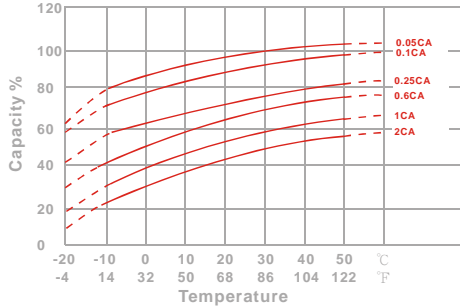
| | |
|---------|-----|
| 1 month | 92% |
| 3 month | 90% |
| 6 month | 80% |

Case Material ABS
(UL94 HB flame retardant case / cover)

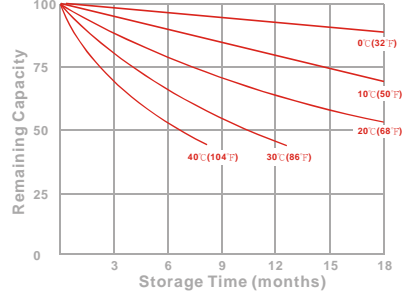
Terminal F2 (Faston Tab 250)

CHARACTERISTIC & PERFORMANCE DATA

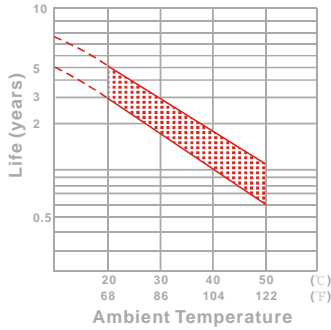
Effect of Temperature on Capacity 25°C (77°F)



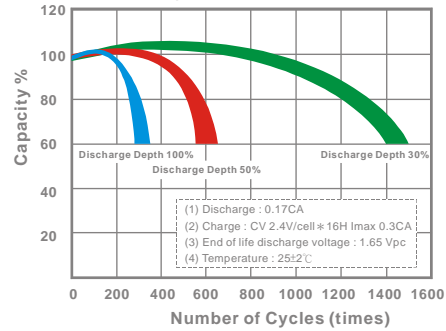
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



- PERFORMANCE DATA

Discharge Rates in Watts 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 5 | min | 407 | 453 | 487 | 522 | 538 | 554 | 584 |
| 10 | min | 302 | 329 | 343 | 358 | 363 | 371 | 380 |
| 15 | min | 235 | 249 | 258 | 267 | 270 | 275 | 282 |
| 30 | min | 136 | 145 | 151 | 155 | 157 | 159 | 161 |
| 60 | min | 95.2 | 98.5 | 101 | 103 | 105 | 106 | 107 |
| 120 | min | 52.6 | 54.3 | 55.1 | 55.7 | 55.9 | 56.2 | 56.7 |
| 180 | min | 34.6 | 35.9 | 37.0 | 37.9 | 38.3 | 38.8 | 39.2 |
| 240 | min | 29.2 | 29.8 | 30.3 | 30.9 | 31.2 | 31.7 | 32.1 |
| 300 | min | 24.4 | 25.2 | 25.8 | 26.5 | 26.7 | 27.0 | 27.6 |
| 600 | min | 14.4 | 14.8 | 15.0 | 15.2 | 15.3 | 15.4 | 15.5 |
| 1200 | min | 7.32 | 7.41 | 7.64 | 7.75 | 7.84 | 7.93 | 8.10 |

- 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 5 | min | 38.5 | 42.7 | 45.8 | 49.0 | 50.4 | 51.9 | 54.7 |
| 10 | min | 27.2 | 29.6 | 30.9 | 32.2 | 32.7 | 33.4 | 34.2 |
| 15 | min | 20.2 | 21.5 | 22.3 | 23.1 | 23.4 | 23.7 | 24.4 |
| 30 | min | 11.6 | 12.3 | 12.8 | 13.2 | 13.3 | 13.5 | 13.7 |
| 60 | min | 8.24 | 8.43 | 8.55 | 8.66 | 8.71 | 8.77 | 8.85 |
| 120 | min | 4.27 | 4.42 | 4.53 | 4.62 | 4.65 | 4.69 | 4.74 |
| 180 | min | 2.89 | 3.08 | 3.15 | 3.21 | 3.24 | 3.27 | 3.31 |
| 240 | min | 2.40 | 2.45 | 2.49 | 2.54 | 2.57 | 2.60 | 2.64 |
| 300 | min | 1.98 | 2.06 | 2.12 | 2.18 | 2.20 | 2.23 | 2.27 |
| 600 | min | 1.17 | 1.20 | 1.22 | 1.24 | 1.25 | 1.26 | 1.27 |
| 1200 | min | 0.599 | 0.606 | 0.625 | 0.634 | 0.641 | 0.649 | 0.663 |

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%)