

# RECHARGEABLE SEALED LEAD ACID BATTERY

# SPECIFICATION



## MP10-12S

**Nominal Voltage (V)** 12V

### Nominal Capacity

|              |                   |         |
|--------------|-------------------|---------|
| 20 hour rate | (0.5A to 10.50V)  | 10.00Ah |
| 10 hour rate | (0.95A to 10.50V) | 9.50Ah  |
| 5 hour rate  | (1.7A to 10.20V)  | 8.50Ah  |
| 1 C          | (10A to 9.60V)    | 5.66Ah  |
| 3 C          | (30A to 9.60V)    | 4.00Ah  |

**Weight Approx.** 3.3kg (7.26lbs)

**Internal Resistance (at 1KHz) Approx.** 12 mΩ

**Maximum Discharge Current for 5 seconds:** 150A

### Charging Methods at 25°C (77°F)

|                           |                  |
|---------------------------|------------------|
| Cycle use:                |                  |
| Charging Voltage          | 14.70V to 14.80V |
| Coefficient               | -5.0mV/°C/cell   |
| Maximum Charging Current: | 3.0A             |
| Standby use:              |                  |
| Float Charging Voltage    | 13.50V to 13.80V |
| Coefficient               | -3.0mV/°C/cell   |

### Operating Temperature Range

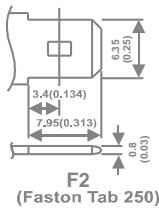
|           |                             |
|-----------|-----------------------------|
| Charge    | -15°C (5°F) to 40°C (104°F) |
| Discharge | -15°C (5°F) to 50°C (122°F) |
| Storage   | -15°C (5°F) to 40°C (104°F) |

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

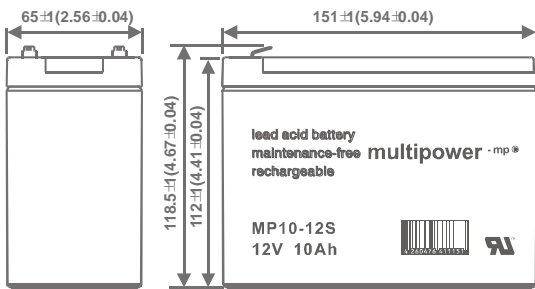
|         |     |
|---------|-----|
| 1 month | 92% |
| 3 month | 90% |
| 6 month | 80% |

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

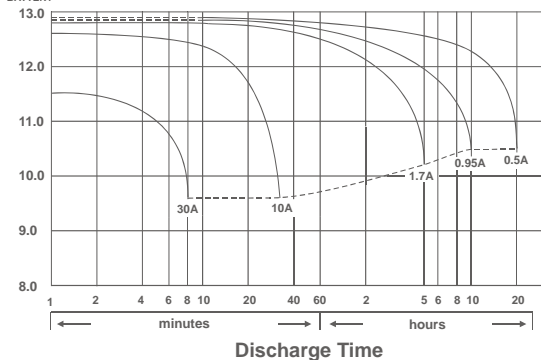
**Terminal** F2 (Faston Tab 250)



F2 (Faston Tab 250)

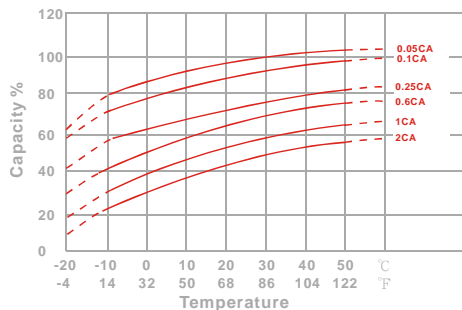


(v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)

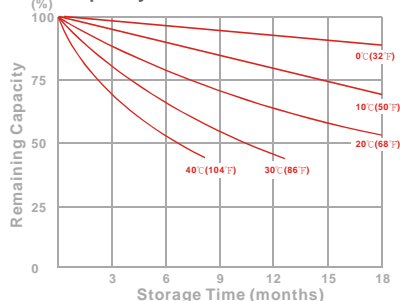


## CHARACTERISTIC & PERFORMANCE DATA

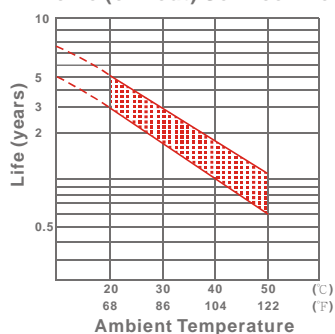
Effect of Temperature on Capacity 25°C (77°F)



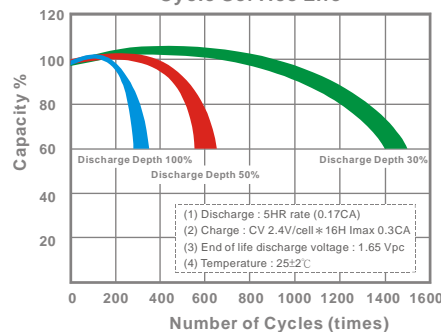
Capacity Retention Characteristic



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 | 49.7  | 57.2  | 60.2  | 62.7  | 63.7  | 64.7  | 65.8  |
| 10          | min | 37.7  | 41.2  | 43.0  | 44.3  | 44.8  | 45.5  | 46.3  |
| 15          | min | 29.2  | 31.3  | 32.7  | 33.7  | 34.2  | 34.7  | 35.2  |
| 30          | min | 18.3  | 19.2  | 19.7  | 20.0  | 20.3  | 20.5  | 20.7  |
| 60          | min | 10.4  | 11.2  | 11.6  | 11.9  | 12.0  | 12.1  | 12.2  |
| 120         | min | 5.88  | 6.43  | 6.72  | 6.92  | 7.00  | 7.10  | 7.20  |
| 180         | min | 4.57  | 4.95  | 5.20  | 5.38  | 5.43  | 5.52  | 5.60  |
| 240         | min | 3.78  | 3.92  | 4.02  | 4.10  | 4.13  | 4.18  | 4.23  |
| 300         | min | 3.32  | 3.42  | 3.48  | 3.53  | 3.57  | 3.60  | 3.63  |
| 600         | min | 1.92  | 1.97  | 2.02  | 2.07  | 2.08  | 2.10  | 2.13  |
| 1200        | min | 1.06  | 1.09  | 1.11  | 1.15  | 1.15  | 1.16  | 1.17  |

### - 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 | 24.6  | 29.3  | 32.7  | 34.1  | 34.9  | 35.6  | 36.1  |
| 10          | min | 21.4  | 24.1  | 25.6  | 26.7  | 27.1  | 27.6  | 28.3  |
| 15          | min | 15.6  | 17.2  | 18.4  | 19.1  | 19.5  | 19.9  | 20.4  |
| 30          | min | 10.7  | 11.3  | 11.8  | 12.2  | 12.4  | 12.6  | 12.8  |
| 60          | min | 5.69  | 6.03  | 6.26  | 6.45  | 6.58  | 6.63  | 6.69  |
| 120         | min | 3.24  | 3.39  | 3.48  | 3.56  | 3.59  | 3.62  | 3.67  |
| 180         | min | 2.55  | 2.63  | 2.68  | 2.72  | 2.74  | 2.76  | 2.79  |
| 240         | min | 1.96  | 2.01  | 2.05  | 2.08  | 2.09  | 2.11  | 2.12  |
| 300         | min | 1.69  | 1.72  | 1.74  | 1.76  | 1.77  | 1.78  | 1.79  |
| 600         | min | 0.974 | 1.00  | 1.02  | 1.04  | 1.05  | 1.06  | 1.07  |
| 1200        | min | 0.525 | 0.527 | 0.532 | 0.536 | 0.538 | 0.541 | 0.544 |

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%)