



### MP2,9-12R

**Nominal Voltage(V)** 12V

#### Nominal Capacity

20 hour rate	(0.145A to 5.4V)	2.90Ah
10 hour rate	(0.270A to 5.4V)	2.70Ah
5 hour rate	(0.487A to 5.25V)	2.44Ah
1 C	(2.9A to 4.8V)	1.55Ah
3 C	(8.7A to 4.8V)	1.02Ah

**Weight Approx.** 1100g(2.43Lbs.)

**Internal Resistance (at 1KHz) Approx.** 55 mΩ

#### Maximum Discharge Current for

**5 seconds:** 43.5A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient	-30.0mv/°C/cell
Maximum Charging Current:	0.87 A
Standby use:	
Float Charging Voltage	13.5 to 13.8V
Coefficient	-20.0mv/°C/cell

#### Operating Temperature Range

Charge	0°C(32°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)

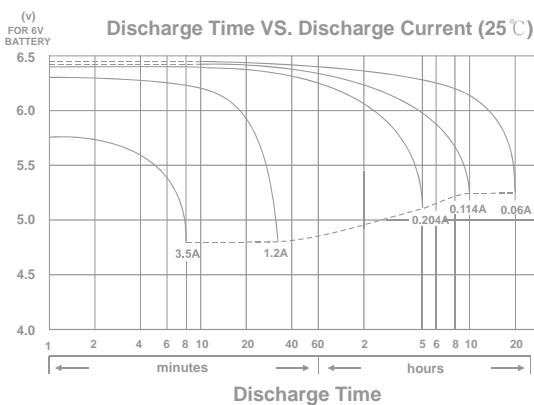
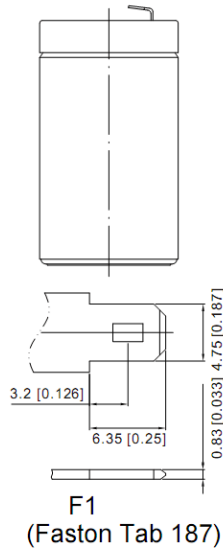
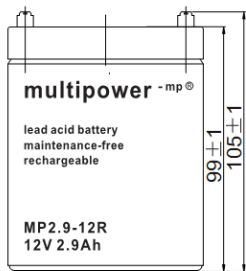
1 month	92%
3 month	90%
6 month	80%

#### Case Material

(UL94 HB flame retardant case / cover)

#### Terminal

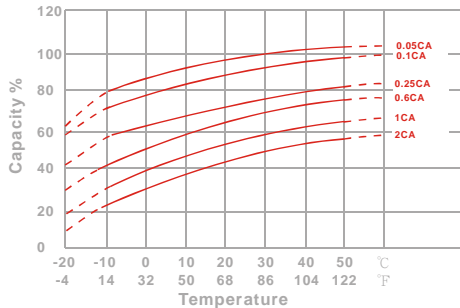
F1(Faston Tab 187)



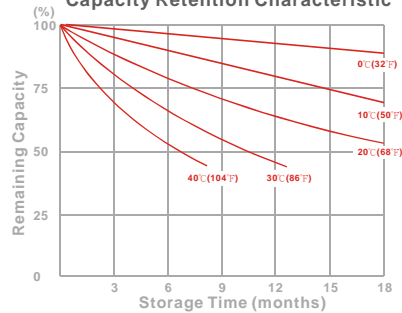


## CHARACTERISTIC & PERFORMANCE DATA

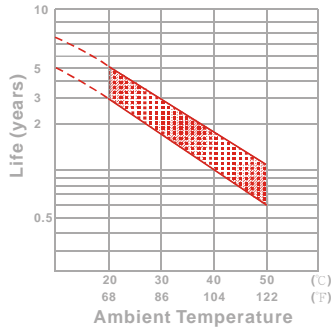
Effect of Temperature on Capacity 25°C(77°F)



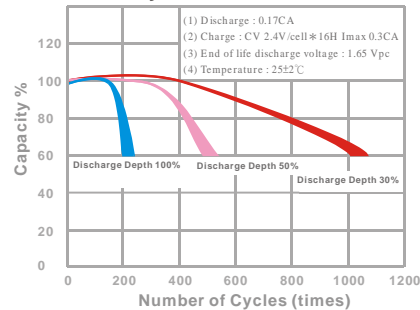
Capacity Retention Characteristic



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
Time								
5	min	10.5	12.8	14.9	16.8	17.4	18.2	18.8
10	min	7.39	8.74	9.78	10.7	11.1	11.3	11.7
15	min	6.16	7.07	7.73	8.29	8.54	8.67	8.93
30	min	4.35	4.77	5.07	5.29	5.39	5.46	5.56
60	min	2.76	2.95	3.09	3.2	3.24	3.32	3.36
120	min	1.69	1.79	1.86	1.92	1.96	1.97	2.01
180	min	1.3	1.35	1.39	1.43	1.46	1.46	1.49
240	min	1.07	1.12	1.14	1.17	1.19	1.19	1.21
300	min	0.91	0.943	0.963	0.981	0.993	0.998	1.01
600	min	0.525	0.54	0.547	0.553	0.560	0.558	0.565
1200	min	0.29	0.291	0.292	0.296	0.297	0.298	0.299

### - 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	5.57	6.85	8.11	9.2	9.66	10.1	10.6
10	min	3.88	4.63	5.24	5.78	6.02	6.21	6.47
15	min	3.2	3.71	4.09	4.43	4.61	4.69	4.88
30	min	2.23	2.47	2.63	2.77	2.85	2.88	2.96
60	min	1.4	1.51	1.59	1.65	1.69	1.72	1.76
120	min	0.856	0.909	0.948	0.987	1.02	1.02	1.05
180	min	0.652	0.685	0.71	0.733	0.751	0.751	0.769
240	min	0.536	0.563	0.581	0.595	0.610	0.608	0.623
300	min	0.455	0.474	0.487	0.499	0.510	0.51	0.521
600	min	0.26	0.27	0.275	0.28	0.285	0.283	0.288
1200	min	0.144	0.145	0.146	0.149	0.150	0.151	0.152

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%)