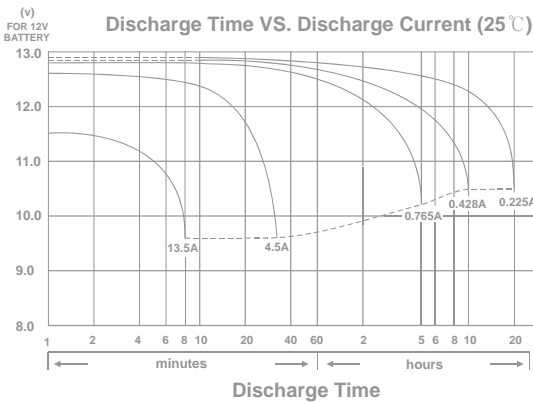
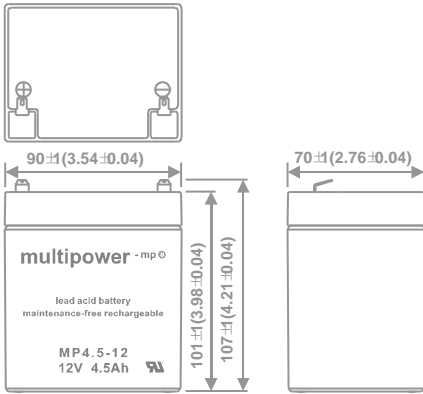
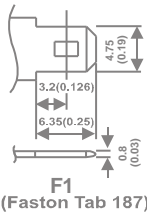


RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION



MP4,5-12

Nominal Voltage(V) 12V

Nominal Capacity

20 hour rate	(0.225A	to	10.50V)	4.5Ah
10 hour rate	(0.428A	to	10.50V)	4.275Ah
5 hour rate	(0.765A	to	10.20V)	3.825Ah
1 C	(4.5A	to	9.60V)	2.55Ah
3 C	(13.5A	to	9.60V)	1.8Ah

Weight Approx. 1.62kg(3.56Lbs.)

Internal Resistance (at 1KHz) Approx. 34.5 mΩ

Maximum Discharge Current for

5 seconds: 67.5A

Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.7 to 14.8V
Coefficient	-5.0mV/°C/cell
Maximum Charging Current:	1.35A
Standby use:	
Float Charging Voltage	13.50 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

(UL94 HB flame retardant case / cover)

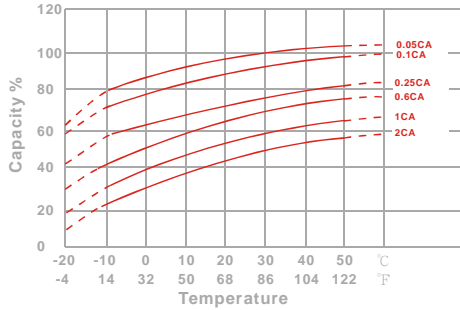
ABS

Terminal

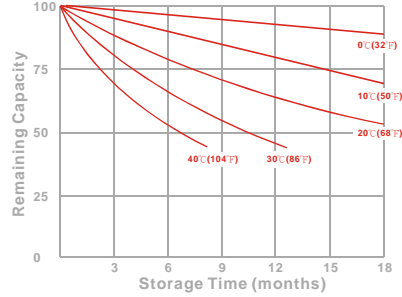
F1(Faston Tab 187)

CHARACTERISTIC & PERFORMANCE DATA

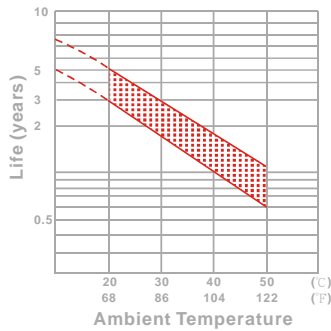
Effect of Temperature on Capacity 25°C(77°F)



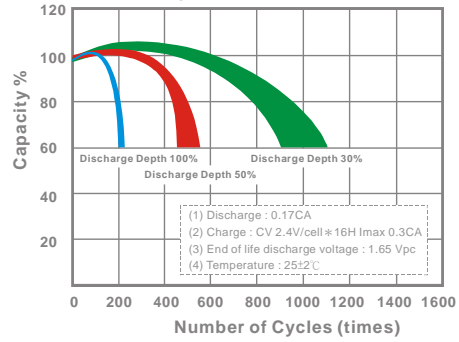
Capacity Retention Characteristic



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
5	min	136	154	167	179	184	190	197
10	min	98.5	112	120	126	128	131	134
15	min	79.5	88.7	92.1	94.9	95.7	96.6	97.8
30	min	46.7	52.4	54.5	56.6	57.2	57.9	58.6
60	min	26.3	29.7	31.9	33.7	34.1	34.7	35.2
120	min	16.2	17.8	18.6	19.2	19.5	19.9	20.3
180	min	12.7	13.8	14.4	14.8	15.0	15.3	15.6
240	min	10.3	11.1	11.6	11.9	12.1	12.2	12.4
300	min	9.16	9.81	10.1	10.3	10.4	10.5	10.7
600	min	6.12	6.47	6.62	6.74	6.79	6.85	6.92
1200	min	2.88	3.11	3.23	3.31	3.33	3.37	3.41

- 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	14.9	17.0	18.3	18.8	19.0	19.2	19.4
10	min	10.0	11.3	11.6	11.8	11.9	12.0	12.1
15	min	7.21	7.83	8.31	8.53	8.58	8.65	8.74
30	min	4.36	4.82	4.97	5.11	5.15	5.21	5.26
60	min	2.53	2.78	2.89	2.97	2.99	3.02	3.05
120	min	1.42	1.54	1.62	1.65	1.66	1.67	1.69
180	min	1.14	1.21	1.23	1.25	1.26	1.27	1.28
240	min	0.889	0.948	0.973	0.996	1.00	1.01	1.02
300	min	0.808	0.839	0.852	0.863	0.867	0.872	0.878
600	min	0.458	0.480	0.495	0.503	0.507	0.511	0.515
1200	min	0.231	0.245	0.257	0.265	0.268	0.272	0.276

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%)