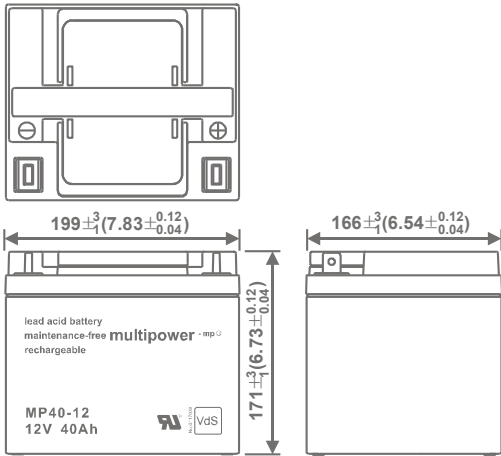
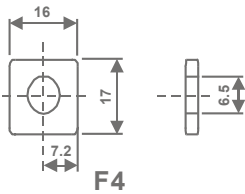
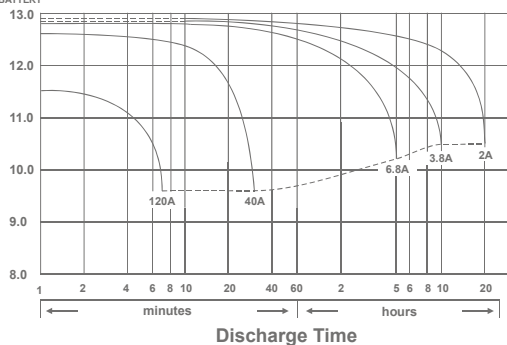


RECHARGEABLE SEALED LEAD ACID BATTERY

SPECIFICATION



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



MP40-12

Nominal Voltage (V) 12V

Nominal Capacity

20 hour rate	(2A	to	10.50V)	40.00Ah
10 hour rate	(3.8A	to	10.50V)	38.00Ah
5 hour rate	(6.8A	to	10.20V)	34.00Ah
1 C	(40A	to	9.60V)	21.33Ah
3 C	(120A	to	9.60V)	14.00Ah

Weight Approx. 12.9kg (28.44lbs)

Internal Resistance (at 1KHz) Approx. 8.5 mΩ

Maximum Discharge Current for

5 seconds: 480A

Charging Methods at 25°C (77°F)

Cycle use:	
Charging Voltage	14.70V to 14.80V
Coefficient	-5.0mV/°C/cell
Maximum Charging Current:	12A
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)

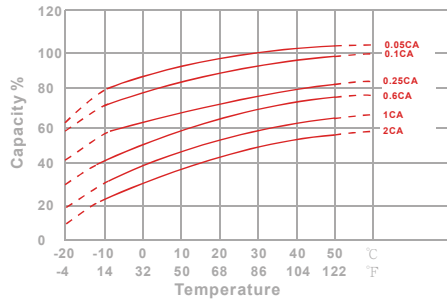
1 month	92%
3 month	90%
6 month	80%

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

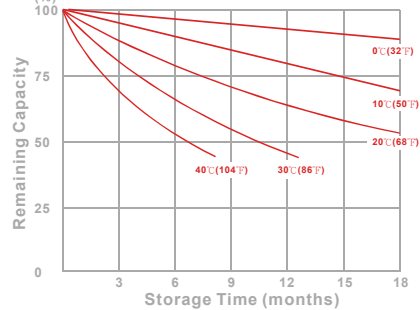
Terminal F4

CHARACTERISTIC & PERFORMANCE DATA

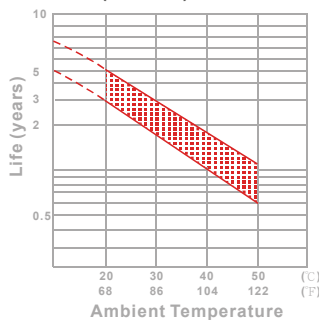
Effect of Temperature on Capacity 25°C(77°F)



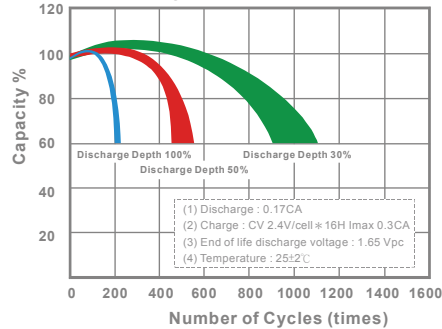
Capacity Retention Characteristic



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
10	min	113	133	149	159	163	163	166
15	min	101	113	123	128	130	131	132
20	min	90.7	98.2	102	105	106	106	107
25	min	79.2	83.5	87.0	88.7	89.2	89.5	90.0
30	min	70.7	73.8	75.8	76.5	76.7	77.0	77.3
45	min	56.5	59.2	62.5	62.7	63.0	63.2	63.3
60	min	43.8	45.8	46.8	47.3	47.5	47.7	47.8
90	min	33.7	35.0	35.7	36.0	36.2	36.5	36.7
120	min	27.7	28.7	29.2	29.5	29.7	29.8	30.0
180	min	19.2	19.8	20.2	20.3	20.5	20.5	20.7
240	min	15.4	15.9	16.1	16.2	16.3	16.4	16.4
300	min	13.2	13.6	13.7	13.8	13.9	13.9	14.0
480	min	9.03	9.22	9.37	9.47	9.52	9.55	9.63
600	min	7.80	7.95	8.05	8.13	8.18	8.22	8.27
1200	min	3.92	4.00	4.03	4.07	4.08	4.08	4.10

- 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
10	min	66.4	77.0	86.2	92.3	94.2	94.4	96.2
15	min	55.1	61.6	66.8	69.6	70.6	71.2	72.2
20	min	47.4	51.3	53.3	55.0	55.5	55.8	56.3
25	min	39.9	42.1	43.9	44.7	45.0	45.1	45.4
30	min	35.9	37.5	38.5	38.9	39.0	39.1	39.2
45	min	28.7	30.1	31.5	31.9	32.0	32.1	32.2
60	min	22.5	23.5	24.0	24.3	24.4	24.5	24.6
90	min	17.2	17.9	18.2	18.4	18.5	18.6	18.7
120	min	13.9	14.4	14.7	14.8	14.9	15.0	15.1
180	min	9.63	10.0	10.1	10.2	10.2	10.3	10.3
240	min	7.70	7.94	8.03	8.09	8.13	8.15	8.20
300	min	6.57	6.76	6.82	6.87	6.90	6.93	6.97
480	min	4.49	4.58	4.65	4.70	4.73	4.75	4.79
600	min	3.87	3.95	4.00	4.04	4.06	4.08	4.10
1200	min	1.94	1.98	2.00	2.02	2.02	2.03	2.04

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%)