

### Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

20 hour rate	(2.25A to 10.50V)	45Ah
10 hour rate	(4.275A to 10.50V)	42.75Ah
5 hour rate	(7.65A to 10.20V)	38.25Ah
1 C	(45A to 9.60V)	25.5Ah
3 C	(135A to 9.60V)	18Ah

#### Weight

Approx. 14.5kg(31.9Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 7 mΩ

#### Maximum Discharge Current for

5 seconds: 540A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	13.5A
Standby use:	
Float Charging Voltage	13.5 to 13.8V
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  
Option: Flammability resistance of (UL94 V-0)

#### Design Life

3-5 Years.

#### Terminal

F8



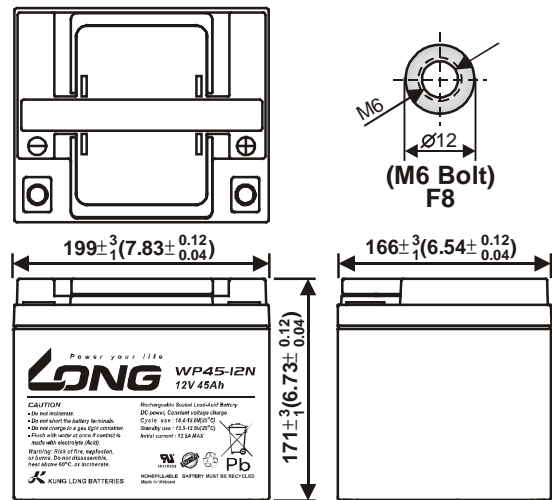
### Dimensions

Length (L)	199+3-1 (7.83+0.12-0.04)
Width (W)	166+3-1 (6.54+0.12-0.04)
Height (H)	171+3-1 (6.73+0.12-0.04)
Overall Height (HT)	171+3-1 (6.73+0.12-0.04)

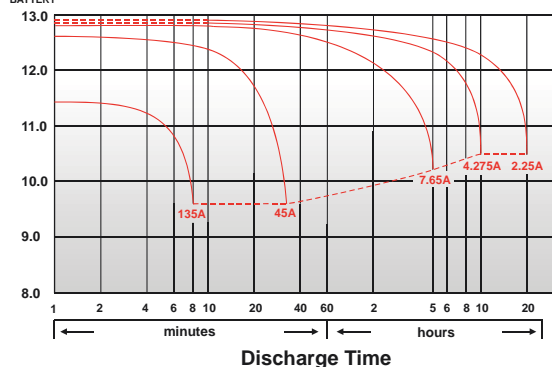
#### Description of torque value of hard ware for the terminals:

Recommended torque value	M6: 7 N-m (71kgf-cm)
Maximum allowable torque value	M6: 9 N-m (92kgf-cm)

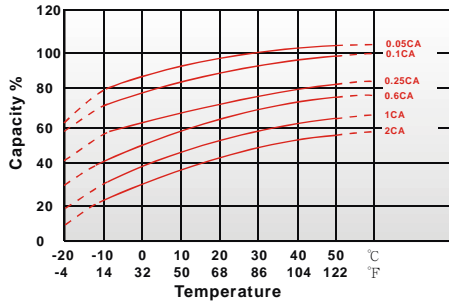
mm(inch)



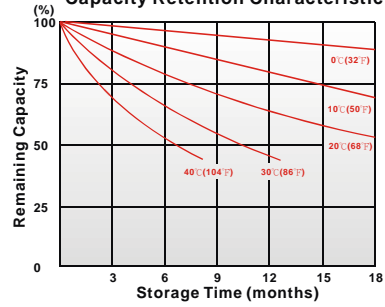
(v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



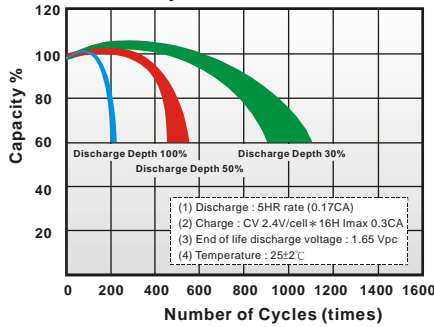
Effect of Temperature on Capacity 25°C (77°F)



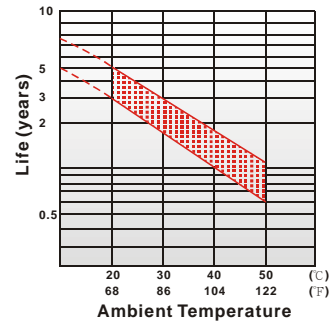
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) 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	min	233	280	314	336	341	347	354
5	min	148	178	200	214	217	221	225
10	min	116	136	150	159	162	164	167
15	min	62.0	73.0	80.5	85.4	86.5	88.1	89.4
30	min	48.8	51.8	53.6	54.9	55.3	55.9	56.4
60	min	25.7	27.3	28.2	28.9	29.2	29.5	29.7
120	min	20.5	21.8	22.5	23.1	23.2	23.5	23.7
180	min	16.4	17.4	18.0	18.4	18.7	18.8	19.0
240	min	14.0	14.9	15.4	15.7	15.9	16.0	16.2
300	min	8.23	8.74	9.04	9.26	9.35	9.44	9.52
600	min	4.34	4.61	4.76	4.88	4.93	4.98	5.02
1200	min							

#### - 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	min	127	153	171	183	186	190	193
5	min	79.5	95.6	107	114	116	118	121
10	min	60.3	71.0	78.3	83.1	84.2	85.6	87.0
15	min	31.7	37.3	41.1	43.6	44.2	45.0	45.7
30	min	24.6	26.1	27.0	27.7	27.9	28.2	28.4
60	min	12.9	13.7	14.2	14.6	14.7	14.8	14.9
120	min	10.3	10.9	11.3	11.5	11.6	11.8	11.9
180	min	8.20	8.70	9.00	9.22	9.31	9.40	9.48
240	min	6.97	7.40	7.65	7.84	7.91	7.99	8.06
300	min	4.10	4.35	4.50	4.61	4.65	4.70	4.74
600	min	2.15	2.28	2.36	2.42	2.44	2.47	2.49
1200	min							

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%)

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