

### ⚡ Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

20 hour rate	(1.65A to 10.50V)	33Ah
10 hour rate	(3.135A to 10.50V)	31.35Ah
5 hour rate	(5.61A to 10.20V)	28.05Ah
1 C	(33A to 9.60V)	18.7Ah
3 C	(99A to 9.60V)	13.2Ah

#### Weight

Approx. 9.8kg(21.6Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 7.5 mΩ

#### Maximum Discharge Current for

5 seconds: 495A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	9.9A
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	97%
3 month	92%
6 month	85%

#### Case Material

ABS UL94 HB  
Option: Flammability resistance of (UL94 V-0)

#### Terminal

F6

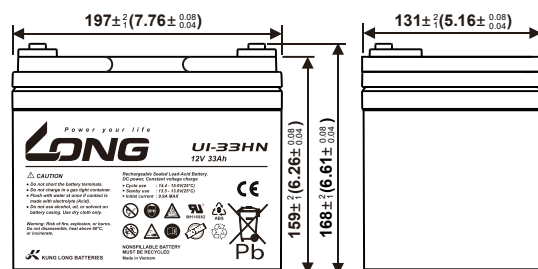
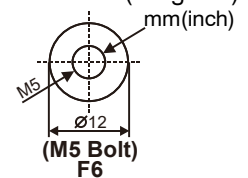
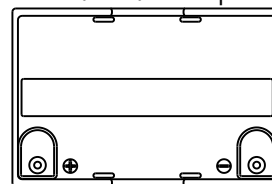


### ⚡ Dimensions

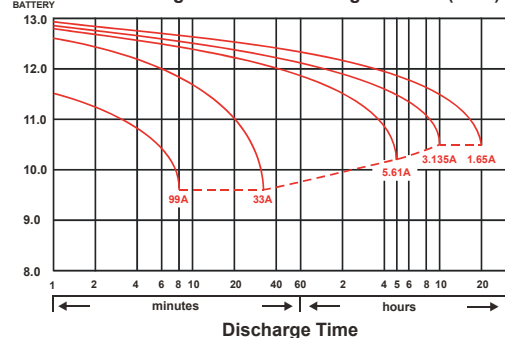
Length (L)	$197 \pm_{-1}^{+2}$ (7.76 ± 0.08)
Width (W)	$131 \pm_{-1}^{+2}$ (5.16 ± 0.04)
Height (H)	$159 \pm_{-1}^{+2}$ (6.26 ± 0.04)
Overall Height (HT)	$168 \pm_{-1}^{+2}$ (6.61 ± 0.04)

#### Description of torque value of hardware for the terminals:

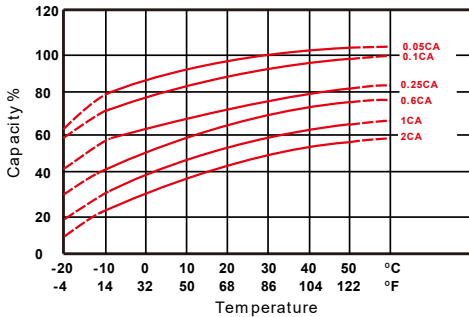
Recommended torque value	M5: 4 N-m (41kgf-cm)
Maximum allowable torque value	M5: 6 N-m (61kgf-cm)



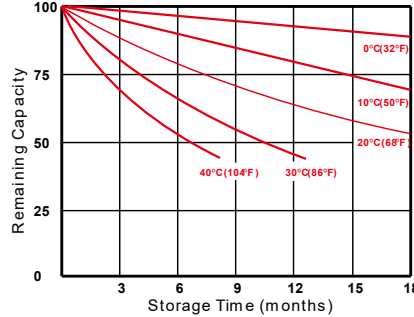
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



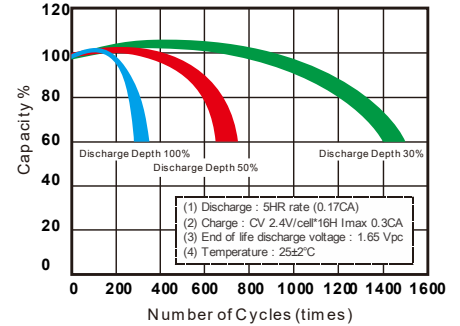
**Effect of Temperature on Capacity 25°C(77°F)**



**Capacity Retention Characteristic**



**Cycle Service Life**



**- 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							
10	min	111	130	143	151	154	156	159
15	min	85.8	99.3	108	114	115	117	119
30	min	48.2	55.5	60.3	63.0	63.8	64.8	66.0
60	min	30.3	33.2	35.0	36.8	37.5	38.2	39.0
120	min	19.0	20.5	21.5	22.3	22.7	23.0	23.5
180	min	13.6	14.7	15.5	16.1	16.4	16.7	17.0
240	min	11.0	11.7	12.3	12.8	13.0	13.2	13.4
300	min	9.57	10.3	10.9	11.3	11.4	11.5	11.7
600	min	5.52	5.97	6.35	6.57	6.63	6.70	6.80
1200	min	2.90	3.13	3.33	3.45	3.50	3.55	3.60

**- 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							
10	min	58.5	68.4	74.5	79.8	81.7	84.2	87.3
15	min	41.1	49.3	54.2	58.4	59.6	61.5	63.0
30	min	27.4	31.3	32.9	34.2	34.6	35.1	35.6
60	min	16.4	17.7	18.6	19.3	19.5	19.8	20.1
120	min	9.67	10.3	10.8	11.2	11.3	11.5	11.7
180	min	6.86	7.36	7.82	8.08	8.15	8.23	8.36
240	min	5.45	5.89	6.27	6.46	6.51	6.58	6.69
300	min	4.74	5.11	5.43	5.61	5.65	5.70	5.78
600	min	2.73	2.95	3.15	3.24	3.27	3.30	3.34
1200	min	1.48	1.59	1.66	1.71	1.72	1.74	1.76

All data on the spec. sheet is an average value:

The tolerance range : X<6min(+15%~-15%), 6min ≤ X<10min(+12%~-12%), 10min ≤ X < 60min(+8%~-8%), X ≥ 60min(+5%~-5%)

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