

⚡ 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. 10.1kg(22.2Lbs.)

Internal Resistance (at 1KHz)

Approx. 6.5 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	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

F4



⚡ Dimensions

Length (L)

197±²_{0.08} (7.76±^{0.08}_{0.04})

Width (W)

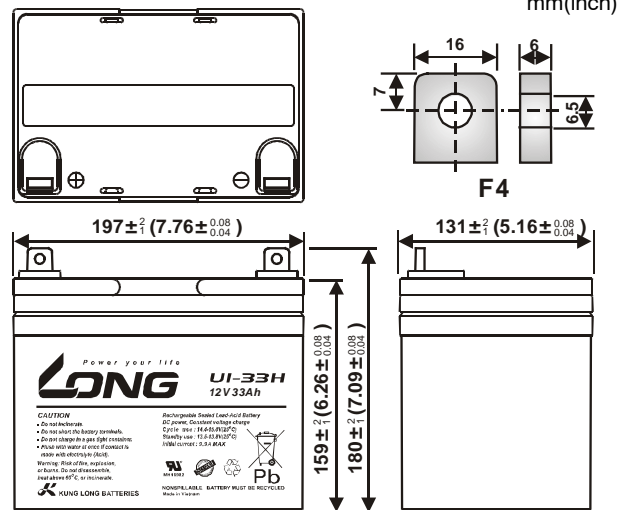
131±²_{0.08} (5.16±^{0.08}_{0.04})

Height (H)

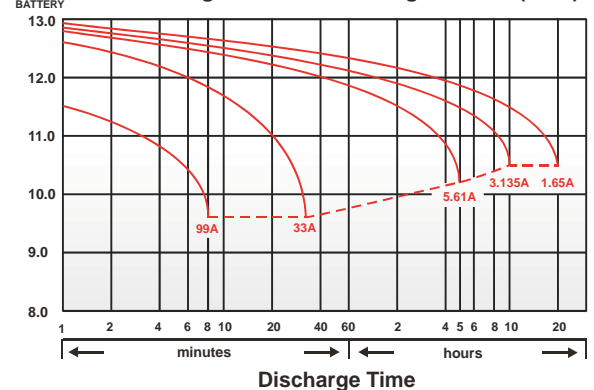
159±²_{0.08} (6.26±^{0.08}_{0.04})

Overall Height (HT)

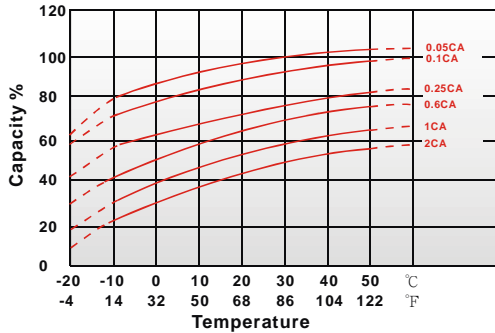
180±²_{0.08} (7.09±^{0.08}_{0.04})



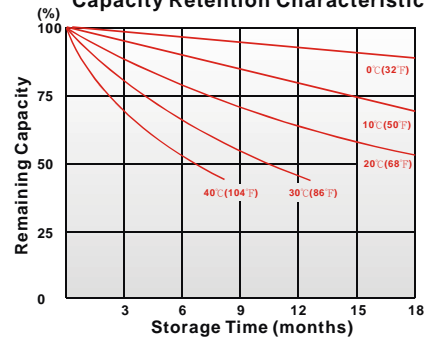
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



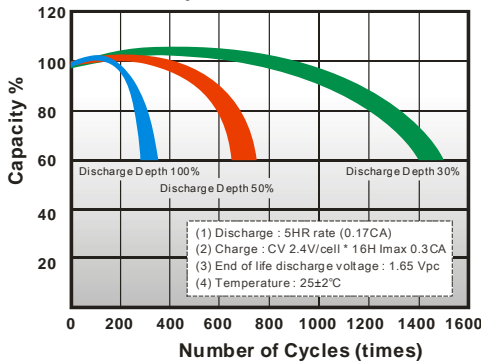
Effect of Temperature on Capacity 25°C(77°F)



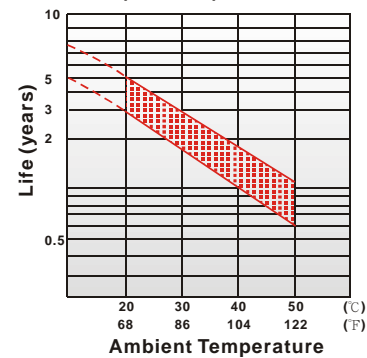
Capacity Retention Characteristic



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
5	min	163	192	211	223	227	232	236
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
5	min	86.7	106	120	129	132	136	140
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 : $X < 6\text{min}$ (+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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