

### ⚡ Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

20 hour rate	(1.2A)	to	10.50V	24Ah
5 hour rate	(4.08A)	to	10.20V	20.4Ah
1 hour rate	(13.2A)	to	9.60V	13.2Ah
1 C	(24A)	to	9.60V	12.8Ah

#### Weight

Approx. 9.3kg(20.46Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 7 mΩ

#### Maximum Discharge Current for

5 seconds:360A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	13.8 to 14.4V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	7.2A
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

7-10 Years.

#### Terminal

F3



### ⚡ Dimensions

#### Length (L)

166±2-1 (6.54±0.08-0.04)

#### Width (W)

175±2-1 (6.89±0.08-0.04)

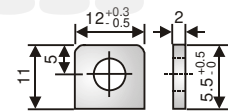
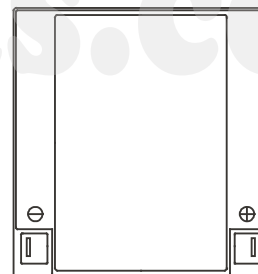
#### Height (H)

125±2-1 (4.92±0.08-0.04)

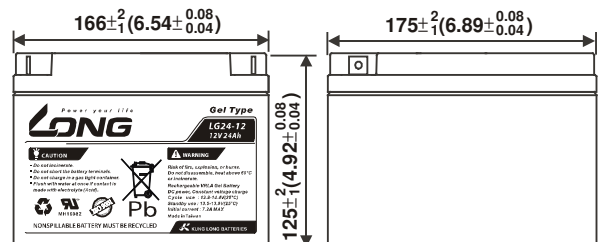
#### Overall Height (HT)

125±2-1 (4.92±0.08-0.04)

mm(inch)

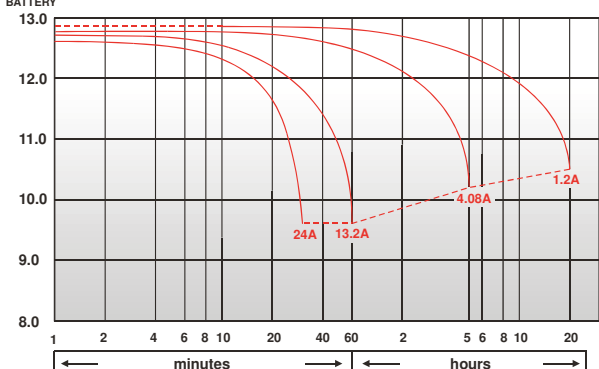


F3  
(M5 Bolts)

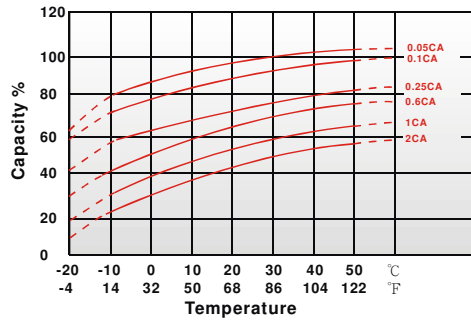


(V)  
FOR 12V  
BATTERY

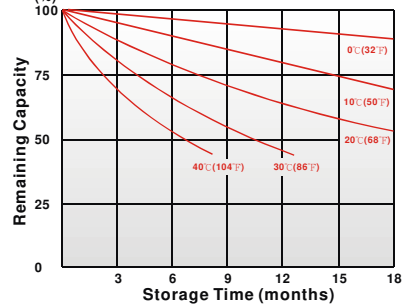
Discharge Time VS. Discharge Current (25°C)



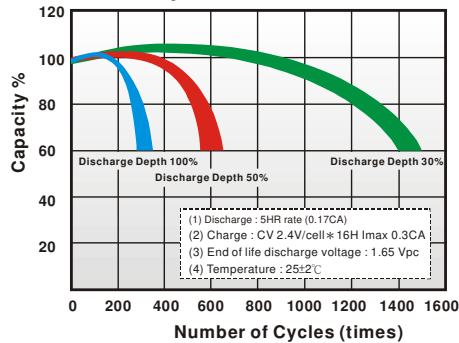
Effect of Temperature on Capacity 25°C(77°F)



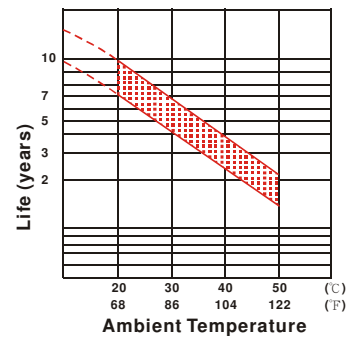
Capacity Retention Characteristic



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								
5	min	133	151	163	170	172	174	174
10	min	91.2	101	106	110	114	117	122
15	min	67.0	77.2	82.0	86.6	88.5	90.2	92.7
30	min	35.5	41.1	45.1	47.8	48.4	49.3	50.3
60	min	23.2	25.5	27.3	28.8	29.3	29.8	30.5
120	min	15.5	16.7	17.5	18.2	18.3	18.7	19.0
180	min	11.5	12.2	12.6	12.9	13.0	13.1	13.3
240	min	9.38	9.95	10.2	10.4	10.5	10.6	10.7
300	min	8.15	8.50	8.65	8.77	8.80	8.85	8.92
600	min	4.60	4.85	5.04	5.18	5.21	5.25	5.30
1200	min	2.53	2.62	2.68	2.73	2.74	2.76	2.78

#### - 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								
5	min	67.0	79.6	88.5	94.2	95.9	97.7	99.5
10	min	47.2	53.1	56.0	58.7	60.8	62.5	65.6
15	min	32.6	38.2	42.1	45.3	46.5	47.4	48.7
30	min	18.2	21.4	23.7	25.4	25.9	26.6	27.1
60	min	14.3	15.1	15.5	15.9	16.0	16.2	16.4
120	min	8.41	8.79	9.04	9.27	9.34	9.40	9.49
180	min	5.75	6.06	6.29	6.51	6.58	6.64	6.73
240	min	4.89	5.17	5.36	5.52	5.56	5.60	5.67
300	min	4.15	4.38	4.56	4.70	4.73	4.77	4.82
600	min	2.21	2.36	2.47	2.56	2.58	2.61	2.64
1200	min	1.17	1.24	1.29	1.33	1.34	1.36	1.38

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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