

### ⚡ Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

20	hour rate	(1.0A	to	10.50V)	20Ah
5	hour rate	(3.4A	to	10.20V)	17Ah
1	hour rate	(11A	to	9.60V)	11Ah
1	C	(20A	to	9.60V)	10.67Ah

#### Weight

Approx. 6.7kg(14.74Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 8 mΩ

#### Maximum Discharge Current for

5 seconds:300A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	13.8 to 14.4V
Coefficient	-5.0mV/°C/cell
Maximum Charging Current :	6A
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

F8

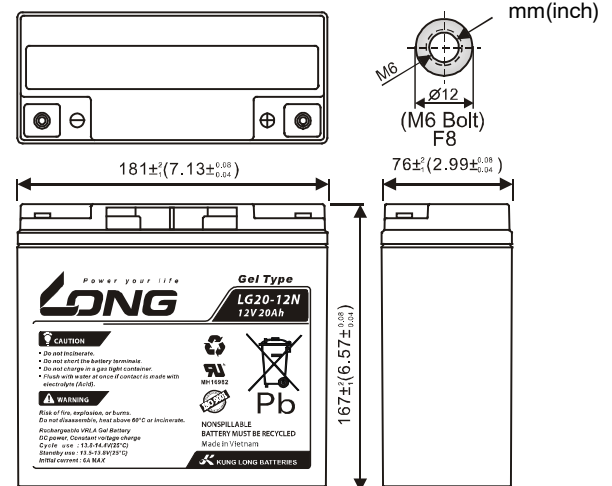


### ⚡ Dimensions

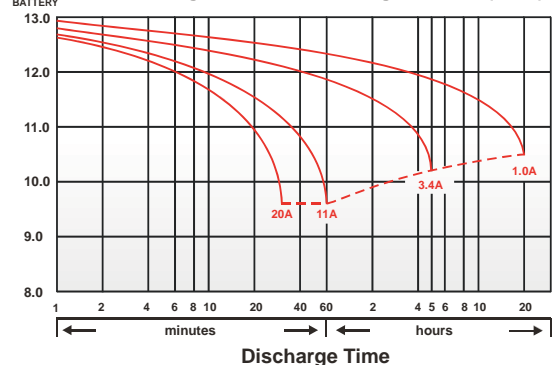
Length (L)	$181 \pm 0.08$ (7.13 ± 0.04)
Width (W)	$76 \pm 0.08$ (2.99 ± 0.04)
Height (H)	$167 \pm 0.08$ (6.57 ± 0.04)
Overall Height (HT)	$167 \pm 0.08$ (6.57 ± 0.04)

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

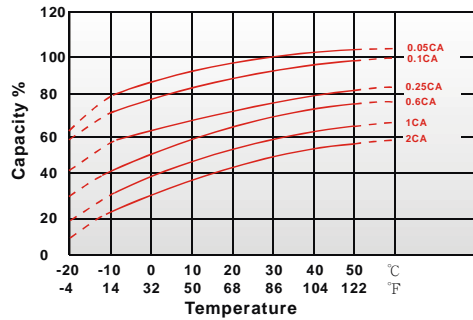
Recommended torque value	M6: 7 N-m (71kgf-cm)
Maximum allowable torque value	M6: 10 N-m (102kgf-cm)



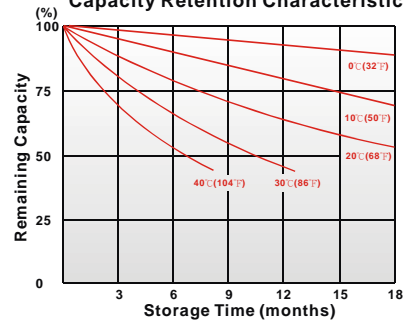
(v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



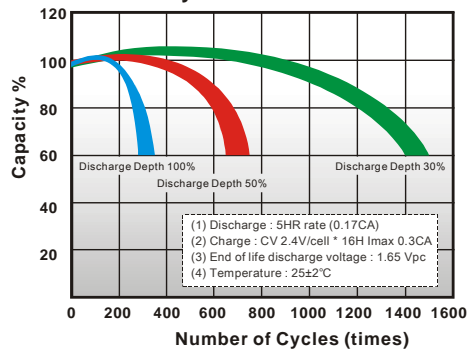
Effect of Temperature on Capacity 25°C (77°F)



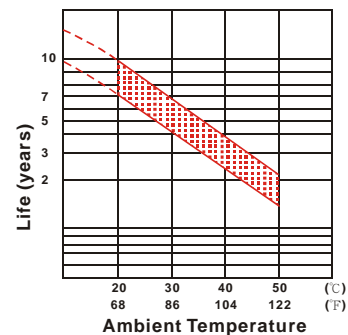
Capacity Retention Characteristic



Cycle Service Life



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	101	121	132	139	141	143	145
10	min	75.3	85.9	93.0	95.2	96.3	97.5	99
15	min	63.5	71.0	76.5	79.3	80.1	81.0	81.9
30	min	33.8	36.1	38.6	40.1	40.5	41.0	41.4
60	min	20.9	21.5	22.3	24.0	24.1	24.4	24.7
120	min	12.1	12.6	12.9	13.4	13.5	13.6	13.7
180	min	8.95	9.58	9.80	10.0	10.1	10.2	10.3
240	min	7.40	7.69	7.88	8.00	8.06	8.10	8.14
300	min	6.45	6.67	6.79	6.89	6.92	6.96	7.02
600	min	3.68	3.78	3.84	3.86	3.89	3.92	3.95
1200	min	1.92	1.95	1.98	2.01	2.03	2.05	2.06

#### - 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	64.2	71.7	75.2	78.3	79.5	80.9	83.2
10	min	44.4	47.4	49.9	51.9	52.8	53.7	55.3
15	min	34.7	37.2	38.8	40.3	40.9	41.4	42.3
30	min	17.9	19.4	20.5	21.3	21.5	21.9	22.5
60	min	10.7	11.5	12.1	12.3	12.4	12.5	12.6
120	min	6.06	6.28	6.41	6.53	6.57	6.62	6.68
180	min	4.50	4.75	4.85	4.93	4.96	5.00	5.05
240	min	3.76	3.85	3.92	3.97	3.99	4.02	4.04
300	min	3.31	3.38	3.42	3.46	3.47	3.49	3.51
600	min	1.89	1.92	1.93	1.95	1.96	1.97	1.98
1200	min	0.96	0.99	1.00	1.01	1.02	1.03	1.04

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%)

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