

# LL SERIES-Long Life

## LL12007.0 (12V7.0AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	7.0AH	
Dimension	Length	151 ± 2mm (5.95 inches)
	Width	65 ± 1mm (2.56 inches)
	Container Height	93.5 ± 1mm (3.70 inches)
	Total Height (with Terminal)	99.5 ± 1mm (3.92 inches)
Approx Weight	Approx 2.45 Kg (5.40 lbs)	
Terminal	T1 / T2	
Container Material	ABS	
Rated Capacity	7.00AH/0.350A	(20hr, 1.80V/cell, 25°C/77°F)
	6.80AH/0.680A	(10hr, 1.80V/cell, 25°C/77°F)
	6.40AH/1.28A	(5hr, 1.75V/cell, 25°C/77°F)
	5.76AH/1.92A	(3hr, 1.75V/cell, 25°C/77°F)
	4.88AH/4.88A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	105.0A (5s)	
Internal Resistance	Approx 28.0mΩ	
Operating Temp. Range	Discharge : -15~50°C (5~122°F)	
	Charge : 0~40°C (32~104°F)	
	Storage : -15~40°C (5~104°F)	
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 2.1A. Voltage	
	14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	LL series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Applications

- ◆ UPS and EPS
- ◆ Emergency light
- ◆ Railway signal and aircraft signal system
- ◆ Marine and powerstations
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply, DC power supply

### Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	15.50	12.30	10.00	7.46	5.48	4.47	2.60	1.86	1.47	1.24	1.06	0.84	0.68	0.34
1.80V/cell	16.30	12.80	10.30	7.65	5.58	4.56	2.64	1.89	1.49	1.26	1.08	0.85	0.68	0.35
1.75V/cell	17.10	13.20	10.60	7.83	5.70	4.64	2.68	1.92	1.51	1.28	1.09	0.86	0.69	0.35
1.70V/cell	17.90	13.70	11.00	8.01	5.80	4.72	2.72	1.95	1.53	1.29	1.11	0.87	0.70	0.35
1.65V/cell	18.40	14.00	11.20	8.12	5.87	4.77	2.74	1.96	1.54	1.30	1.11	0.88	0.71	0.36
1.60V/cell	19.50	14.60	11.60	8.37	6.03	4.88	2.80	2.00	1.57	1.33	1.13	0.89	0.72	0.36

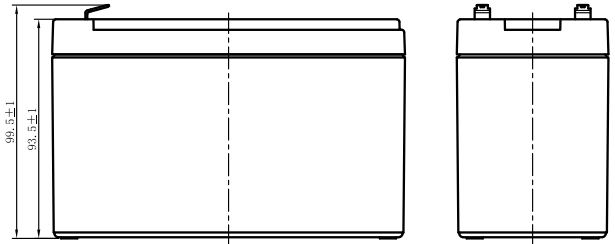
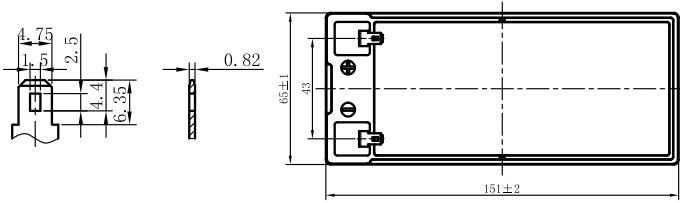
### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	29.70	23.60	19.30	14.40	10.60	8.70	5.08	3.66	2.90	2.46	2.11	1.66	1.34	0.69
1.80V/cell	31.00	24.40	19.80	14.70	10.80	8.84	5.15	3.71	2.93	2.49	2.13	1.68	1.36	0.69
1.75V/cell	32.30	25.20	20.30	15.00	11.00	8.96	5.21	3.76	2.97	2.52	2.15	1.70	1.37	0.70
1.70V/cell	33.60	25.90	20.80	15.30	11.10	9.09	5.28	3.80	3.00	2.54	2.18	1.72	1.39	0.71
1.65V/cell	34.40	26.40	21.10	15.40	11.20	9.17	5.32	3.83	3.02	2.56	2.19	1.73	1.40	0.71
1.60V/cell	36.20	27.40	21.80	15.80	11.50	9.34	5.41	3.90	3.07	2.60	2.23	1.75	1.42	0.72

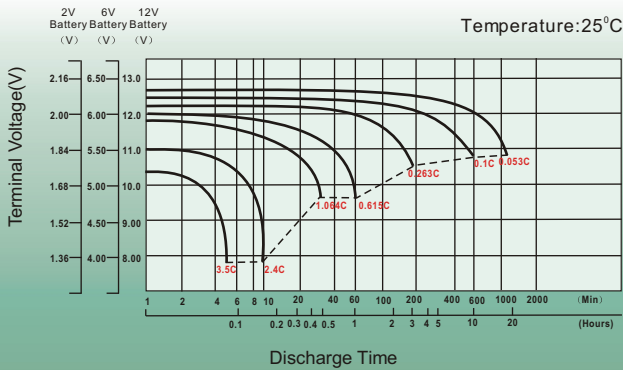
# Dimensions

## T1 Terminal

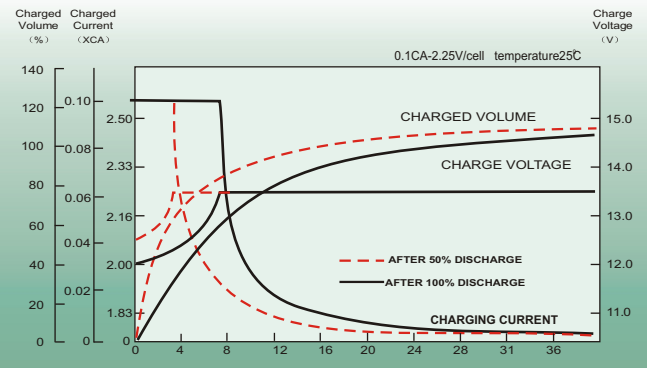
Unit: mm [inches]



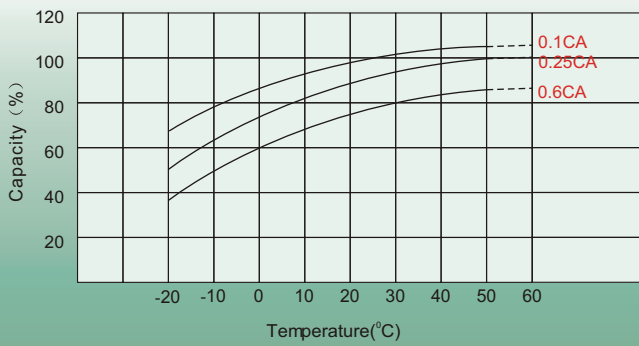
## Discharge Characteristics



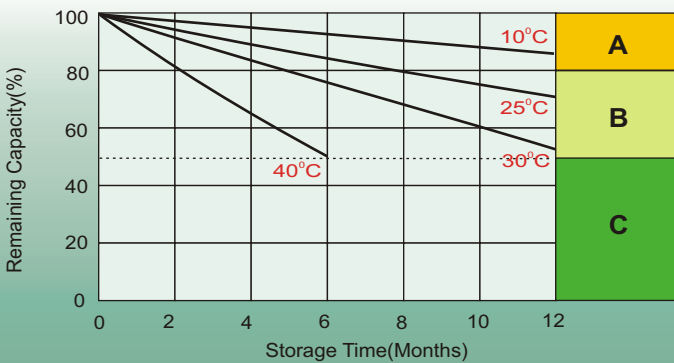
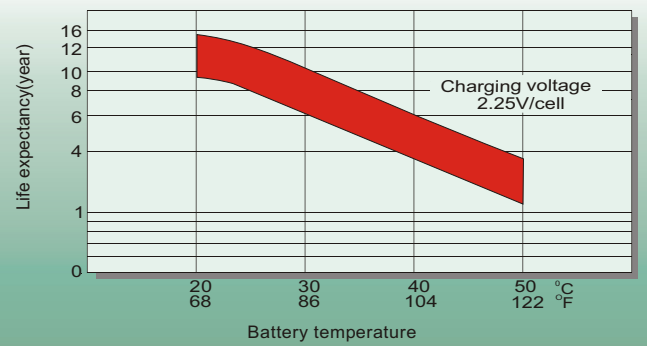
## Float Charging Characteristics



## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



## Self Discharge Characteristics

- A** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant volatge 2.25V/cell.
  2. Charged for above 20hours at limited current 0.25CA and constant volatge 2.45V/cell.
  3. Charged for 8-10hours at limited current 0.05CA .
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.