

LL SERIES-Long Life

LL12045(12V45AH)

Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	45.0AH	
Dimension	Length	197±2mm (7.76 inches)
	Width	165±2mm (6.50 inches)
	Container Height	170±2mm (6.69 inches)
	Total Height (with Terminal)	170±2mm (6.69 inches)
Approx Weight	Approx 14.5 Kg (32.0 lbs)	
Terminal	T6	
Container Material	ABS	
Rated Capacity	47.2 AH/2.36A	(20hr, 1.80V/cell, 25°C/77°F)
	45.0 AH/4.50A	(10hr, 1.80V/cell, 25°C/77°F)
	41.0 AH/8.19A	(5hr, 1.75V/cell, 25°C/77°F)
	37.2 AH/12.4A	(3hr, 1.75V/cell, 25°C/77°F)
	28.7 AH/28.7A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	540A (5s)	
Internal Resistance	Approx 9.0mΩ	
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 13.5A. 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 20°C(68°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 power stations 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	66.6	57.7	45.4	40.6	29.7	25.1	15.3	11.2	8.82	7.65	6.74	5.19	4.30	2.28
1.80V/cell	75.6	65.4	51.3	44.2	31.4	26.0	15.8	12.2	9.41	8.05	7.25	5.46	4.50	2.36
1.75V/cell	82.0	70.8	55.4	45.1	32.6	27.3	16.7	12.4	9.59	8.19	7.30	5.48	4.55	2.39
1.70V/cell	87.4	75.2	58.7	46.0	33.2	27.9	17.0	12.7	9.76	8.33	7.34	5.57	4.59	2.41
1.65V/cell	90.1	77.4	60.3	46.7	33.7	28.3	17.2	12.8	9.91	8.50	7.37	5.65	4.65	2.44
1.60V/cell	93.2	79.8	61.9	47.3	34.2	28.7	17.5	12.9	10.02	8.61	7.43	5.72	4.70	2.47

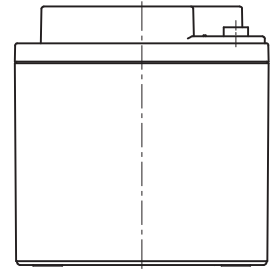
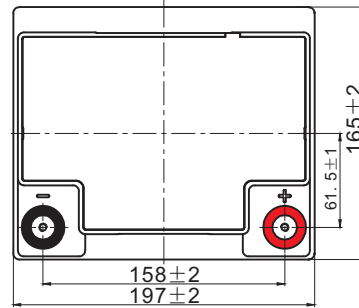
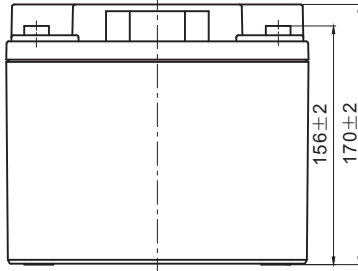
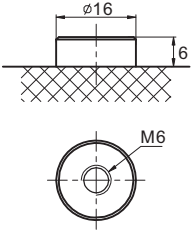
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	125.2	109.5	89.2	77.6	57.1	48.6	29.8	22.0	17.29	15.07	13.32	10.29	8.55	4.54
1.80V/cell	140.1	122.3	96.6	83.8	60.1	50.1	30.6	23.7	18.39	15.78	14.26	10.80	8.94	4.70
1.75V/cell	149.5	130.5	103.1	84.8	61.9	52.3	32.1	24.1	18.67	16.01	14.33	10.83	9.02	4.74
1.70V/cell	157.2	137.2	108.4	85.8	62.7	53.1	32.6	24.5	18.93	16.22	14.38	10.98	9.10	4.78
1.65V/cell	159.7	139.4	110.1	86.4	63.2	53.6	32.9	24.6	19.15	16.50	14.40	11.11	9.20	4.84
1.60V/cell	162.0	141.3	111.7	86.8	63.5	54.0	33.2	24.7	19.29	16.66	14.46	11.23	9.29	4.89

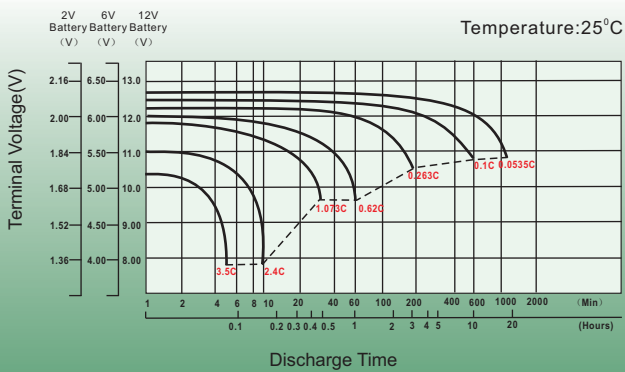
Specifications subject to change without notice.

Dimensions

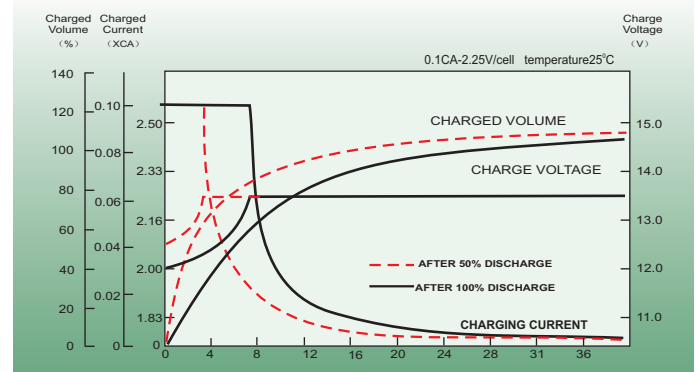
T6 Terminal Unit: mm



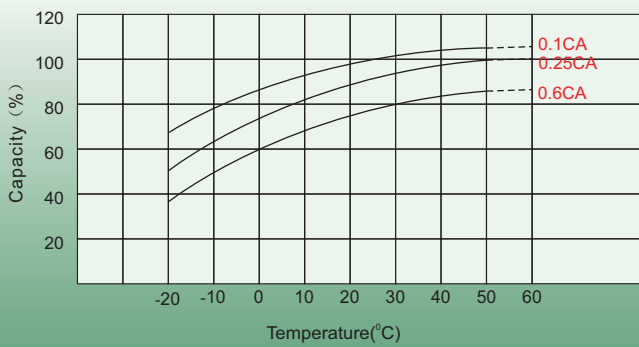
Discharge Characteristics



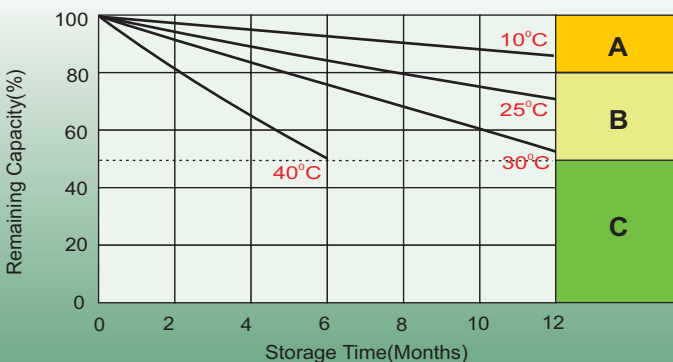
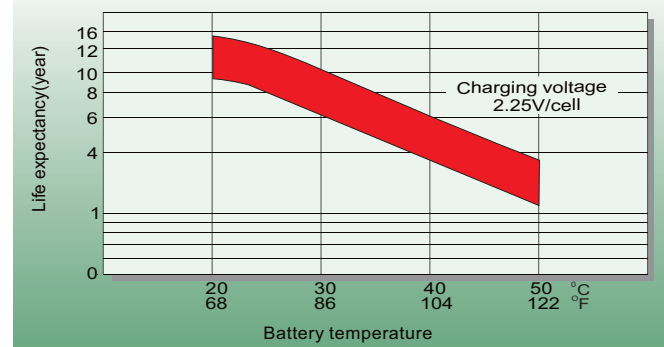
Float Charging Characteristics



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.