

### Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	28.0AH	
Dimension	Length	165±2mm (6.50 inches)
	Width	125±2mm (4.92 inches)
	Container Height	175±2mm (6.89 inches)
	Total Height (with Terminal)	175±2mm (6.89 inches)
Approx Weight	Approx 9.5 Kg (20.9 lbs)	
Terminal	T12	
Container Material	ABS	
Rated Capacity	29.6AH/1.48A	(20hr, 1.80V/cell, 25°C/77°F)
	28.0AH/2.80A	(10hr, 1.80V/cell, 25°C/77°F)
	24.3AH/4.86A	(5hr, 1.75V/cell, 25°C/77°F)
	22.1AH/7.37A	(3hr, 1.75V/cell, 25°C/77°F)
	17.2AH/17.2A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	420A (5s)	
Internal Resistance	Approx 12.0mΩ	
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 8.4A. 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	36.1	30.1	25.7	21.0	15.9	13.3	8.48	6.73	5.45	4.41	3.87	3.09	2.64	1.47
1.80V/cell	46.1	36.4	30.4	24.8	18.5	14.9	9.27	7.24	5.82	4.73	4.15	3.28	2.80	1.48
1.75V/cell	50.7	39.8	32.7	25.7	19.2	15.6	9.61	7.37	5.96	4.86	4.26	3.34	2.83	1.50
1.70V/cell	55.3	42.5	34.3	26.8	19.9	16.1	10.0	7.58	6.11	4.98	4.35	3.39	2.86	1.53
1.65V/cell	59.6	45.2	36.5	28.2	20.4	16.6	10.3	7.90	6.32	5.12	4.45	3.44	2.91	1.55
1.60V/cell	64.8	48.3	38.9	29.8	21.3	17.2	10.6	8.14	6.52	5.29	4.54	3.47	2.95	1.56

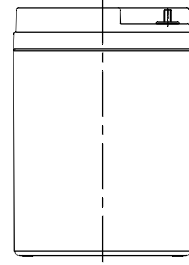
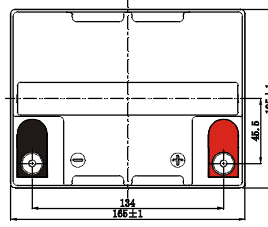
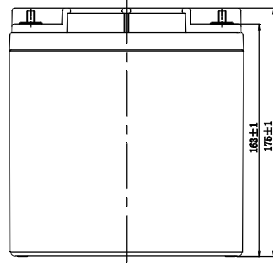
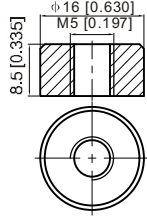
### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	68.0	57.3	49.3	40.7	31.1	26.1	16.8	13.4	10.9	8.79	7.74	6.22	5.32	2.96
1.80V/cell	85.9	68.3	57.5	47.3	35.8	29.1	18.2	14.3	11.5	9.40	8.27	6.58	5.63	2.99
1.75V/cell	92.9	73.7	61.2	48.7	36.9	30.3	18.8	14.5	11.8	9.62	8.47	6.68	5.68	3.01
1.70V/cell	99.0	77.6	63.9	50.5	38.2	31.2	19.5	14.9	12.0	9.84	8.63	6.77	5.73	3.07
1.65V/cell	105.8	81.9	67.4	52.8	38.8	32.0	19.9	15.4	12.4	10.1	8.79	6.85	5.84	3.10
1.60V/cell	112.3	86.2	71.0	55.4	40.2	33.0	20.5	15.8	12.7	10.4	8.96	6.91	5.89	3.11

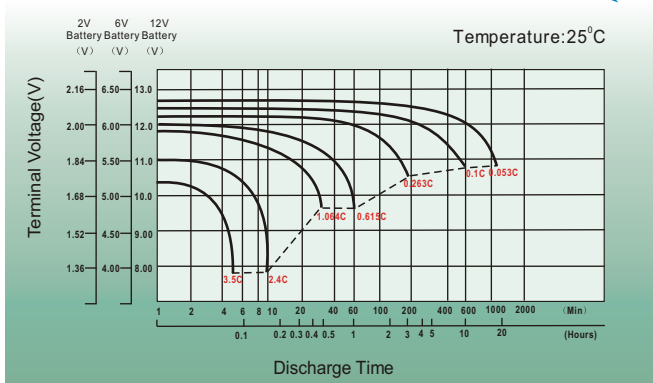
## Dimensions

### T12 Terminal

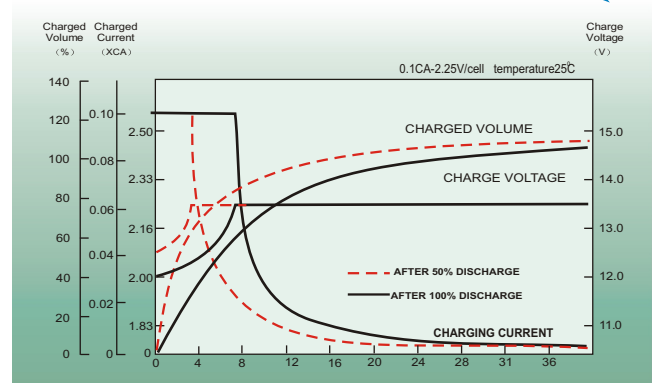
Unit: mm [inches]



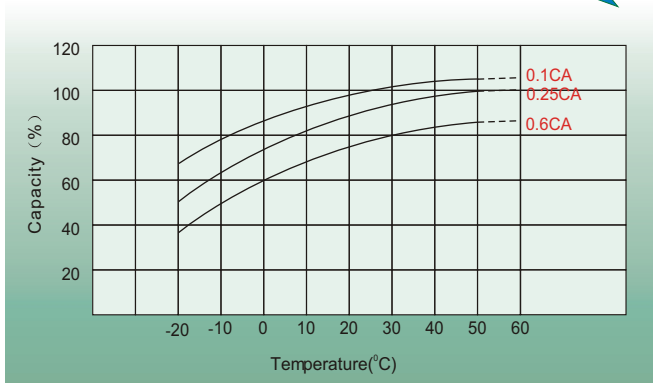
## Discharge Characteristics



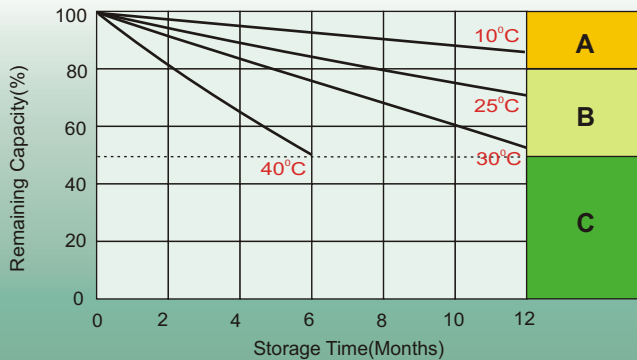
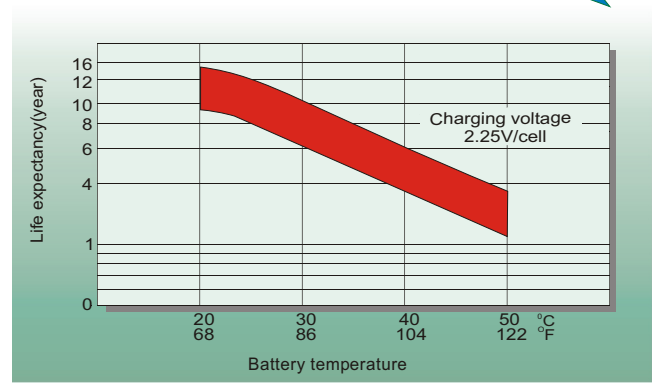
## Float Charging Characteristics



## 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.