

## Specification

Nominal Voltage	12V
Nominal Capacity(20HR)	18.0AH
Dimension	Length 181.5±2mm (7.14 inches)
	Width 77±1mm (3.03 inches)
	Container Height 167.5±2mm (6.59 inches)
	Total Height (with Terminal) 167.5±2mm (6.59 inches)
Approx Weight	Approx 5.7 Kg (12.57 lbs)
Terminal	T3
Container Material	ABS UL.94:HB0(optional ABS UL.94:V0)
Rated Capacity	18.0AH/0.90A (20hr, 1.80V/cell, 25°C/77°F)
	16.7AH/1.67A (10hr, 1.80V/cell, 25°C/77°F)
	15.3 AH/3.05A (5hr, 1.75V/cell, 25°C/77°F)
	13.4AH/4.46A (3hr, 1.75V/cell, 25°C/77°F)
	11.2 AH/11.2A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	270A (5s)
Internal Resistance	Approx 16.0mΩ
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 5.1A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C
	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C
Standby Use	
Capacity affected by Temperature	40°C (104°F) 103%
	25°C (77°F) 100%
	0°C (32°F) 86%
Self Discharge	General purpose 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.
Life expectancy	3~5 years at 25°C with charge voltage of 2.25V/cell



## Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system



Conform to:  
IEC60896-21&22 and/or IEC61427

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

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	34.3	22.8	18.8	16.5	13.5	10.6	8.75	5.37	4.04	3.33	2.82	2.45	1.94	1.62	0.891
1.80V/cell	41.0	27.3	22.1	18.9	15.1	11.6	9.47	5.76	4.32	3.54	2.97	2.55	2.02	1.67	0.900
1.75V/cell	49.2	31.3	24.6	20.9	16.2	12.4	10.0	6.00	4.46	3.62	3.05	2.63	2.07	1.72	0.909
1.70V/cell	57.1	35.0	27.1	22.6	17.3	13.0	10.4	6.21	4.58	3.71	3.12	2.68	2.10	1.74	0.925
1.65V/cell	63.0	37.9	29.2	24.2	18.2	13.6	10.8	6.41	4.70	3.80	3.19	2.73	2.14	1.76	0.938
1.60V/cell	69.5	41.0	31.2	25.6	19.2	14.1	11.2	6.57	4.82	3.90	3.25	2.80	2.18	1.79	0.943

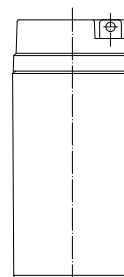
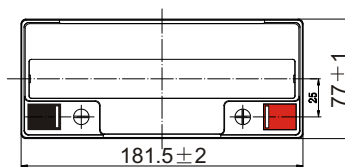
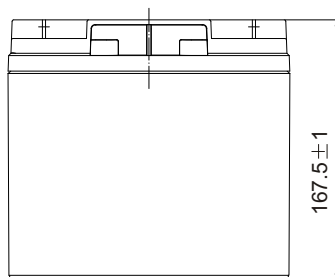
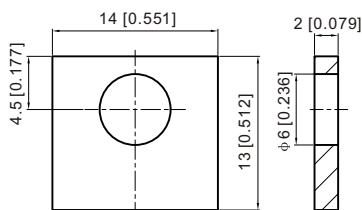
## Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	63.9	42.6	35.3	31.1	25.7	20.3	16.9	10.4	7.88	6.50	5.53	4.81	3.84	3.21	1.77
1.80V/cell	74.2	50.1	40.9	35.4	28.5	22.1	18.2	11.1	8.37	6.88	5.79	5.00	3.97	3.31	1.78
1.75V/cell	88.2	56.8	45.0	38.7	30.3	23.5	19.1	11.5	8.62	7.02	5.93	5.12	4.07	3.39	1.80
1.70V/cell	100.9	62.6	49.1	41.7	32.2	24.5	19.9	11.9	8.82	7.17	6.05	5.23	4.12	3.44	1.83
1.65V/cell	109.7	66.8	52.0	44.2	33.6	25.4	20.4	12.2	9.03	7.33	6.16	5.31	4.18	3.47	1.85
1.60V/cell	118.8	71.3	54.9	45.9	34.9	26.2	21.1	12.5	9.20	7.49	6.28	5.42	4.26	3.53	1.86

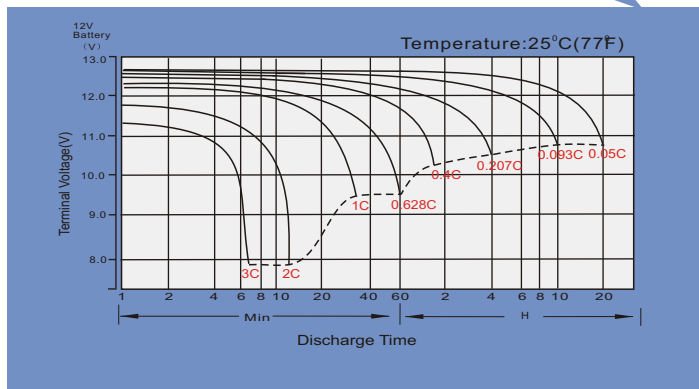
# Dimensions

## T3 Terminal

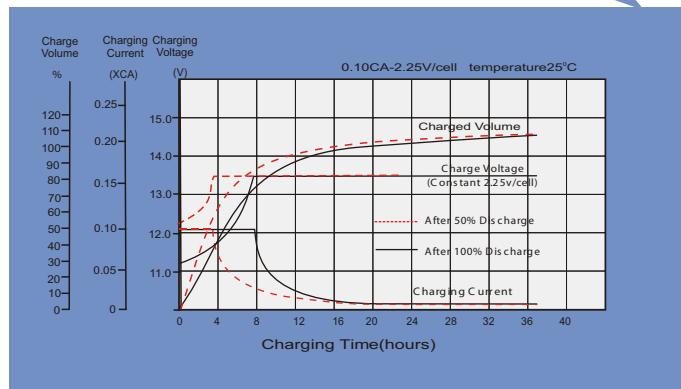
Unit: mm [inches]



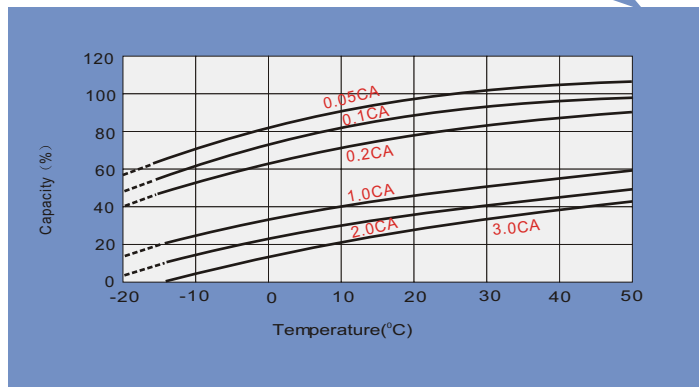
## Discharge Characteristics



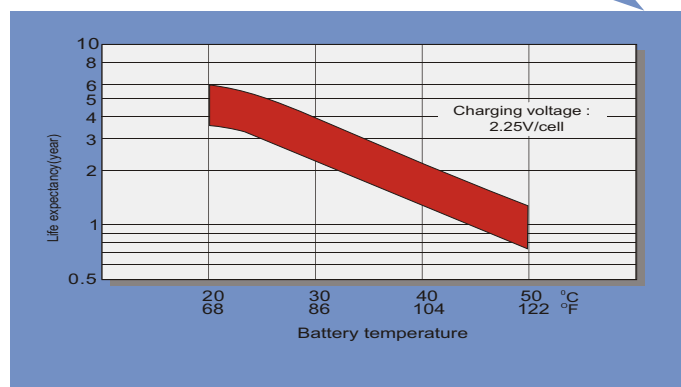
## Float Charging Characteristics



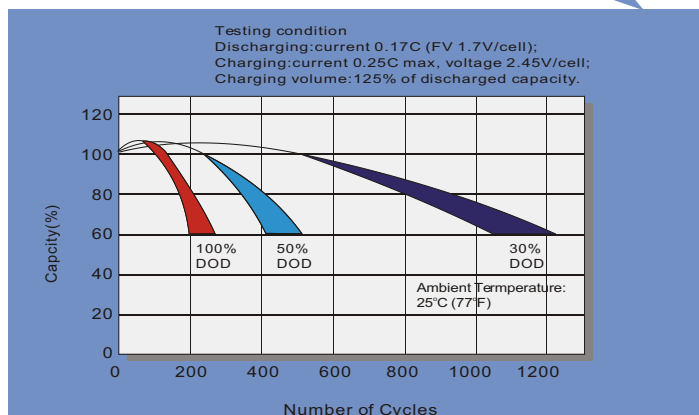
## Temperature Effects in Relation to Battery Capacity



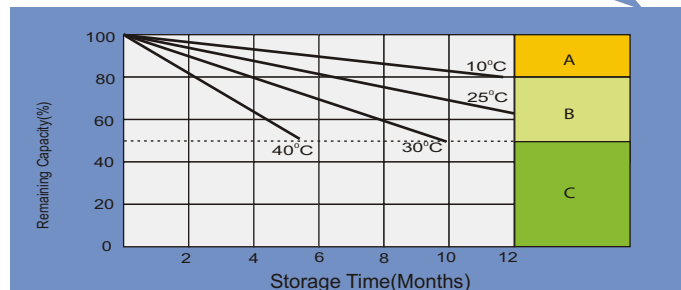
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## 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 may also be:  
 1. Charged for a above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
 2. Charged for a above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
 3. Charged for 8 ~10 hours at limited current 0.05 CA.
- C** Supplementary charge may often fail to recover the capacity.  
 The battery should never be left standing till this is reached.



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