

## Specification

Nominal Voltage	12V
Nominal Capacity(20HR)	24.0AH
Dimensions	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 6.0kg (13.23lbs)
Terminal	T12
Container Material	ABS
Rated Capacity	24.0AH/1.20A (20hr, 1.80V/cell, 25°C/77°F)
	22.3 AH/2.23A (10hr, 1.80V/cell, 25°C/77°F)
	20.5 AH/4.1A (5hr, 1.75V/cell, 25°C/77°F)
	18.0AH/6.0A (3hr, 1.75V/cell, 25°C/77°F)
	15.0AH/15.0A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	270A (5s)
Internal Resistance	Approx 16mΩ
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 7.2A. 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	Deep cycle 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.
Life expectancy	3~5 years at 25°C with charge voltage 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)

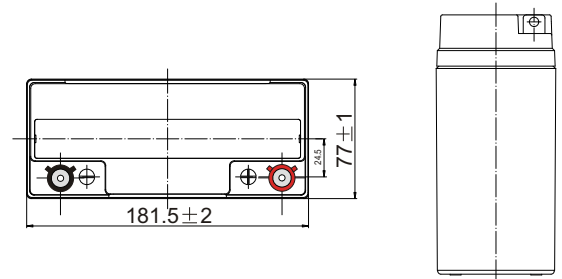
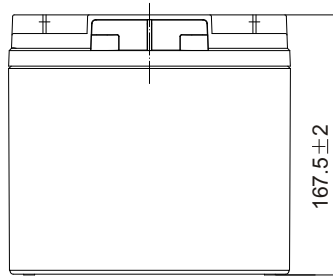
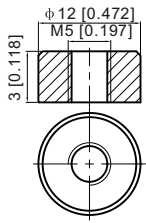
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	30.4	25.1	22.0	18.0	14.1	11.7	7.2	5.4	4.4	3.8	3.3	2.6	2.16	1.19
1.80V/cell	36.4	29.5	25.2	20.2	15.5	12.6	7.7	5.8	4.7	4.0	3.4	2.7	2.23	1.20
1.75V/cell	41.8	32.7	27.9	21.6	16.5	13.3	8.0	6.0	4.8	4.1	3.5	2.8	2.29	1.21
1.70V/cell	46.7	36.1	30.2	23.0	17.3	13.9	8.3	6.1	4.9	4.2	3.6	2.8	2.32	1.23
1.65V/cell	50.5	38.7	32.3	24.2	18.1	14.4	8.5	6.3	5.1	4.2	3.6	2.8	2.35	1.25
1.60V/cell	54.7	41.6	34.1	25.5	18.8	15.0	8.8	6.4	5.2	4.3	3.7	2.9	2.39	1.26

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

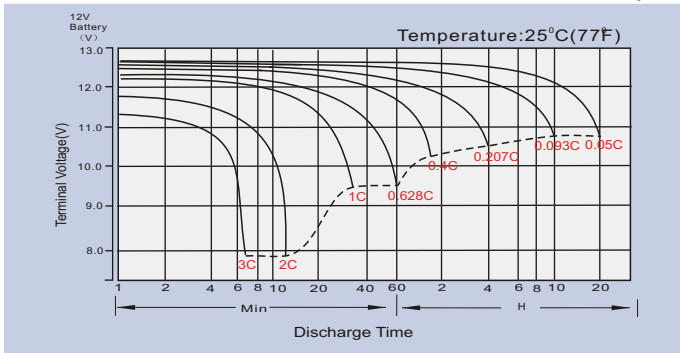
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	56.9	47.1	41.5	34.3	27.0	22.5	13.9	10.5	8.7	7.4	6.4	5.1	4.3	2.35
1.80V/cell	66.7	54.5	47.1	38.0	29.4	24.2	14.8	11.2	9.2	7.7	6.7	5.3	4.4	2.37
1.75V/cell	75.7	60.0	51.7	40.4	31.3	25.5	15.4	11.5	9.4	7.9	6.8	5.4	4.5	2.39
1.70V/cell	83.5	65.5	55.5	42.9	32.6	26.5	15.9	11.8	9.6	8.1	7.0	5.5	4.6	2.44
1.65V/cell	89.1	69.3	58.9	44.8	33.9	27.3	16.3	12.0	9.8	8.2	7.1	5.6	4.6	2.47
1.60V/cell	95.1	73.2	61.2	46.6	35.0	28.2	16.7	12.3	10.0	8.4	7.2	5.7	4.7	2.48

# Dimensions

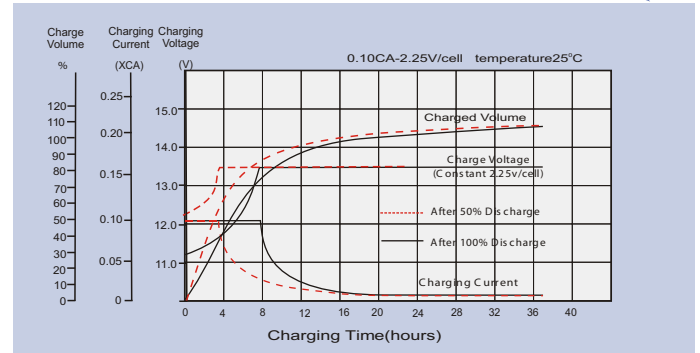
## T1 2Terminal Unit: mm [inches]



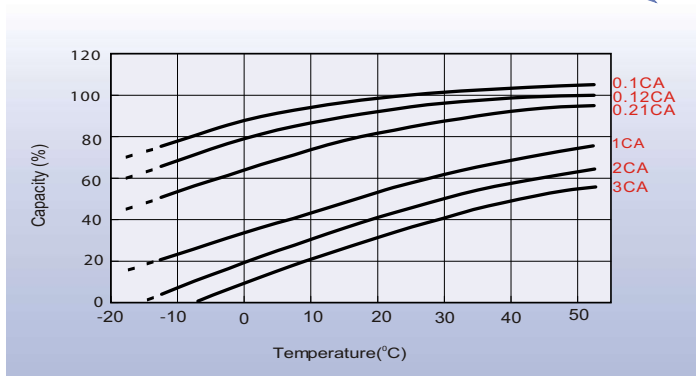
## Discharge Characteristics



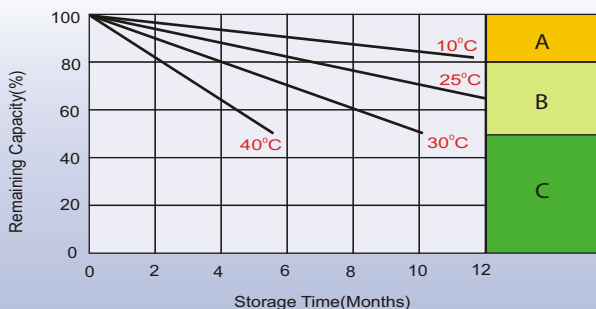
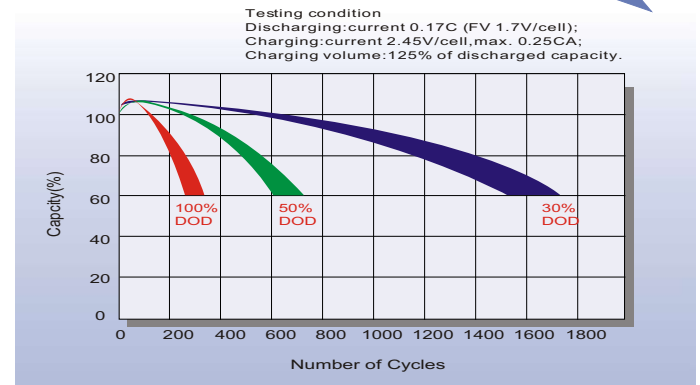
## Float Charging Characteristics



## Temperature Effects in Relation to Battery Capacity



## 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 way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
  3. Charged for 8~10 hours 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.