



# AB SERIES-General Purpose

## AB12-5 (12V5AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	5.0AH	
Dimensions	Length	90 ± 1mm (3.54 inches)
	Width	70 ± 1mm (2.76 inches)
	Container Height	101 ± 2mm (3.98 inches)
	Total Height (with Terminal)	107 ± 2mm (4.21 inches)
	Approx Weight	Approx 1.48 kg (3.26lbs)
Terminal	T1	
Container Material	ABS	
Rated Capacity	5.00 AH/0.250A	(20hr, 1.80V/cell, 25°C/77°F)
	4.65 AH/0.465A	(10hr, 1.80V/cell, 25°C/77°F)
	4.20 AH/0.840A	(5hr, 1.75V/cell, 25°C/77°F)
	3.66 AH/1.22A	(3hr, 1.75V/cell, 25°C/77°F)
	3.04AH/3.04A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	67.5A (5s)	
Internal Resistance	Approx 40mΩ	
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 1.35A. 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	AB 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

- ◆ 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

### 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	9.60	6.69	5.52	4.79	3.84	2.95	2.42	1.48	1.12	0.924	0.784	0.679	0.540	0.449	0.248
1.80V/cell	11.8	7.99	6.40	5.42	4.25	3.22	2.60	1.57	1.18	0.971	0.818	0.709	0.560	0.465	0.250
1.75V/cell	14.0	9.03	7.06	5.90	4.54	3.42	2.74	1.64	1.22	1.00	0.840	0.727	0.575	0.474	0.253
1.70V/cell	15.9	9.96	7.64	6.33	4.77	3.55	2.85	1.70	1.26	1.03	0.861	0.744	0.584	0.482	0.257
1.65V/cell	17.5	10.7	8.08	6.65	4.97	3.69	2.97	1.75	1.30	1.05	0.880	0.758	0.593	0.489	0.261
1.60V/cell	18.4	11.2	8.42	6.86	5.11	3.77	3.04	1.81	1.33	1.07	0.898	0.773	0.606	0.497	0.262

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

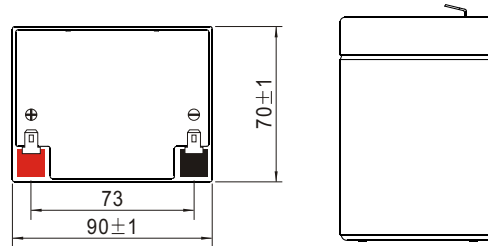
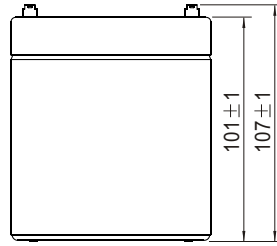
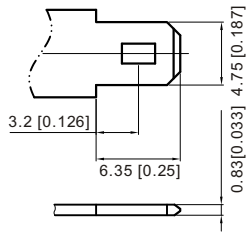
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	18.1	12.7	10.6	9.27	7.49	5.79	4.76	2.92	2.23	1.84	1.57	1.36	1.09	0.905	0.500
1.80V/cell	22.0	15.1	12.2	10.4	8.23	6.27	5.09	3.09	2.33	1.93	1.63	1.41	1.12	0.931	0.503
1.75V/cell	25.7	16.9	13.3	11.2	8.73	6.63	5.33	3.20	2.40	1.97	1.66	1.44	1.14	0.944	0.504
1.70V/cell	28.9	18.4	14.3	12.0	9.12	6.84	5.52	3.31	2.47	2.01	1.69	1.47	1.15	0.954	0.510
1.65V/cell	31.4	19.5	14.9	12.5	9.42	7.06	5.72	3.39	2.52	2.04	1.72	1.49	1.17	0.962	0.515
1.60V/cell	32.5	20.1	15.4	12.7	9.58	7.15	5.80	3.47	2.56	2.08	1.75	1.51	1.18	0.974	0.515



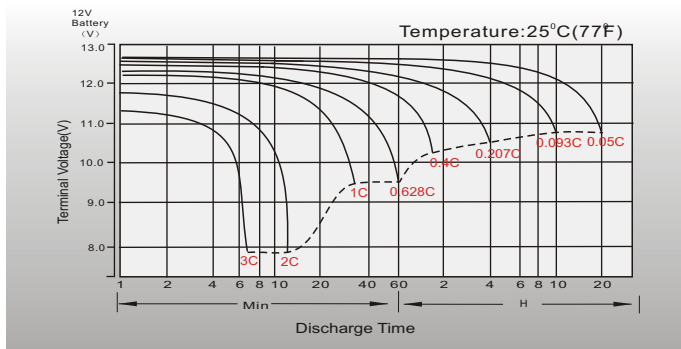
# Dimensions

## T1 Terminal

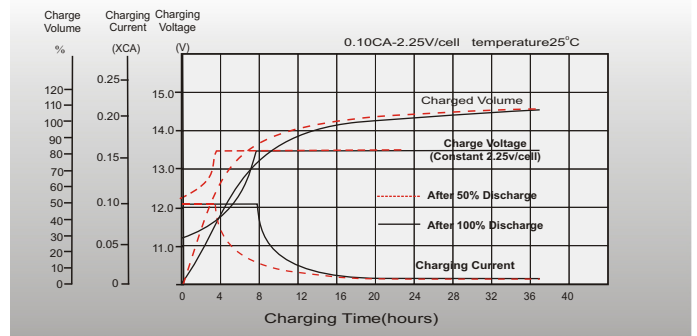
Unit: mm [inches]



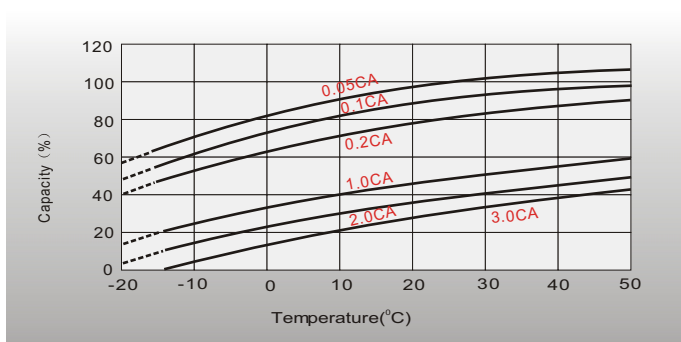
## Discharge Characteristics



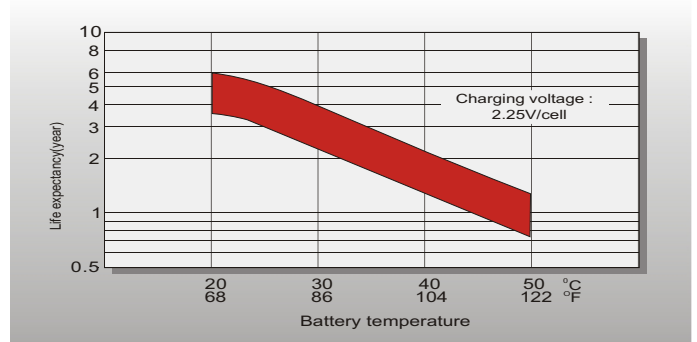
## Float Charging Characteristics



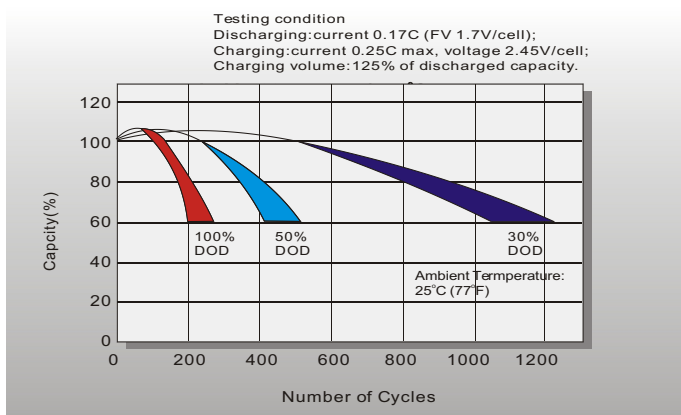
## Temperature Effects in Relation to Battery Capacity



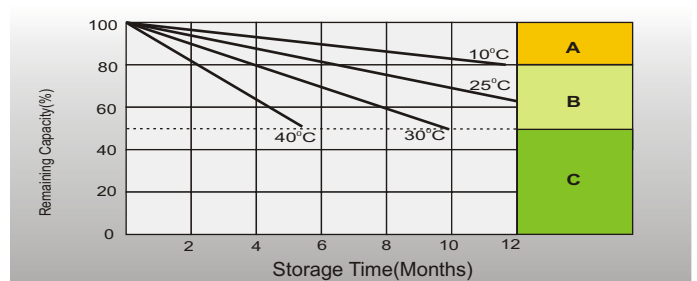
## Effect of Temperature on Long Term Float Life



## 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.