



valve regulated  
sealed lead acid type  
rechargeable battery

**sunbattery**<sup>®</sup>

# SB12-1.2 (12V1.2AH)

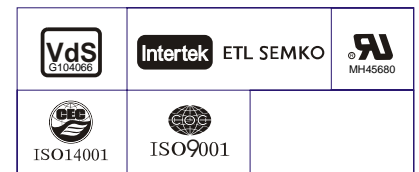
## Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	1.2AH	
Dimension	Length	97 ± 1mm (3.82 inches)
	Width	43 ± 1mm (1.69 inches)
	Container Height	52 ± 1mm (2.04 inches)
	Total Height (with Terminal)	58 ± 1mm (2.28 inches)
Approx Weight	Approx 0.57 kg (1.26lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity	1.20 AH/0.600A	(20hr, 1.80V/cell, 25°C/77°F)
	1.12 AH/0.112A	(10hr, 1.80V/cell, 25°C/77°F)
	1.02 AH/0.204A	(5hr, 1.75V/cell, 25°C/77°F)
	9.18 AH/0.306A	(3hr, 1.75V/cell, 25°C/77°F)
	0.754 AH/0.754A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	18A (5s)	
Internal Resistance	Approx 90mΩ	
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 0.36A. 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%
Life expectancy	3~5 years at 25°C with charge voltage of 2.25V/cell	
Self Discharge	SB 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	2.29	1.75	1.45	1.26	0.97	0.716	0.603	0.357	0.279	0.227	0.185	0.161	0.130	0.108	0.059
1.80V/cell	3.07	2.24	1.76	1.49	1.15	0.833	0.676	0.390	0.300	0.242	0.199	0.172	0.137	0.112	0.060
1.75V/cell	3.46	2.46	1.92	1.60	1.19	0.864	0.707	0.404	0.306	0.248	0.204	0.177	0.140	0.115	0.061
1.70V/cell	3.81	2.69	2.05	1.68	1.24	0.899	0.729	0.414	0.315	0.254	0.209	0.181	0.142	0.117	0.062
1.65V/cell	4.20	2.90	2.18	1.78	1.31	0.921	0.746	0.420	0.328	0.263	0.215	0.185	0.144	0.119	0.063
1.60V/cell	4.63	3.15	2.33	1.90	1.38	0.960	0.754	0.438	0.338	0.271	0.222	0.189	0.145	0.121	0.063

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

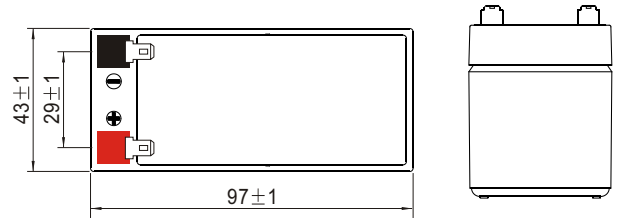
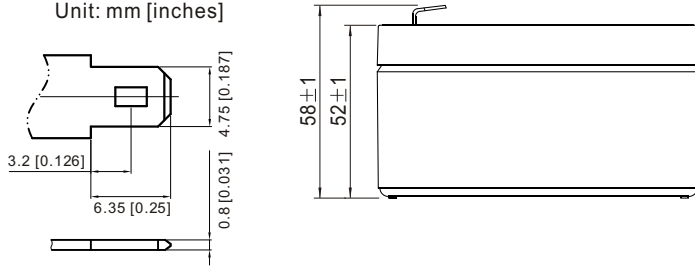
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	4.18	3.24	2.71	2.37	1.85	1.38	1.16	0.693	0.544	0.444	0.363	0.316	0.256	0.214	0.118
1.80V/cell	5.55	4.09	3.23	2.76	2.15	1.59	1.30	0.751	0.582	0.471	0.388	0.337	0.271	0.221	0.119
1.75V/cell	6.12	4.43	3.49	2.94	2.22	1.63	1.35	0.776	0.591	0.480	0.397	0.346	0.275	0.226	0.120
1.70V/cell	6.56	4.71	3.67	3.07	2.29	1.69	1.39	0.794	0.606	0.492	0.406	0.352	0.278	0.231	0.122
1.65V/cell	7.13	5.04	3.87	3.23	2.40	1.72	1.41	0.801	0.629	0.507	0.416	0.359	0.282	0.235	0.123
1.60V/cell	7.68	5.35	4.08	3.41	2.52	1.78	1.42	0.831	0.645	0.521	0.428	0.365	0.284	0.237	0.124



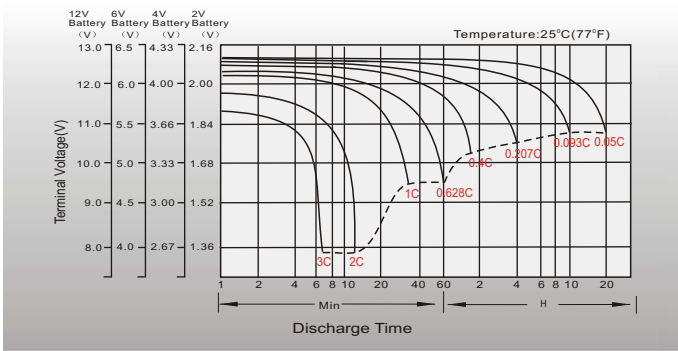
# Dimensions

## T1 Terminal

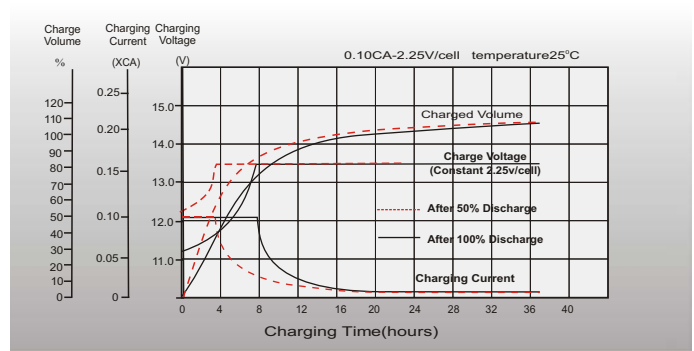
Unit: mm [inches]



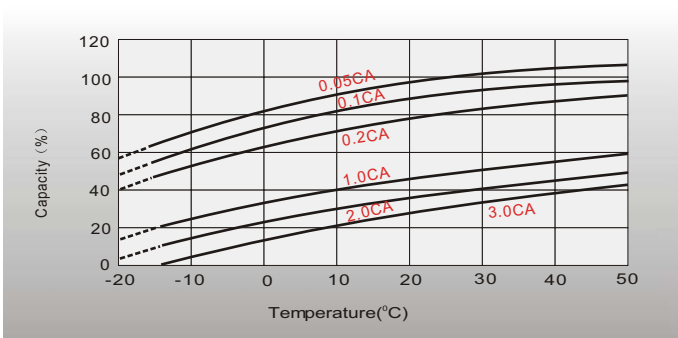
## Discharge Characteristics



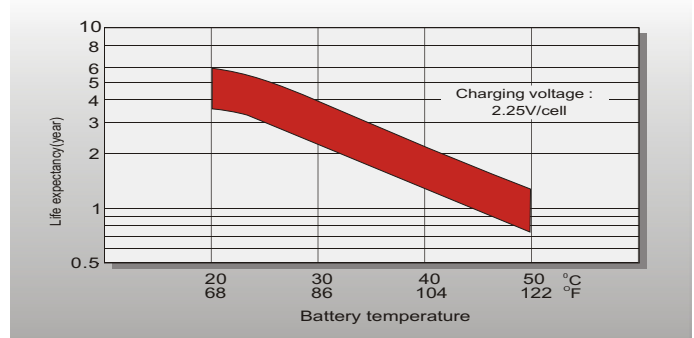
## Float Charging Characteristics



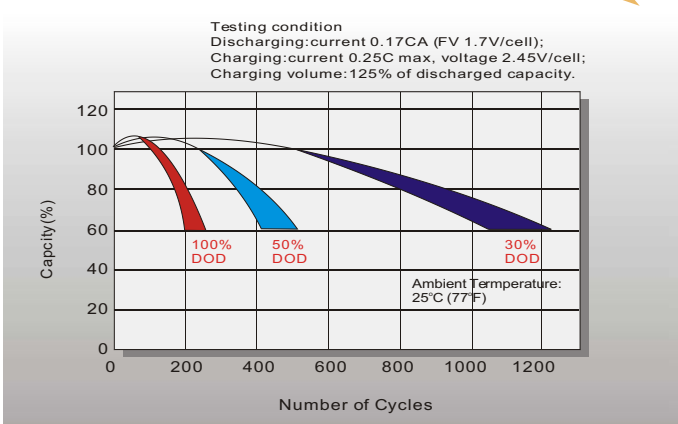
## Temperature Effects in Relation to Battery Capacity



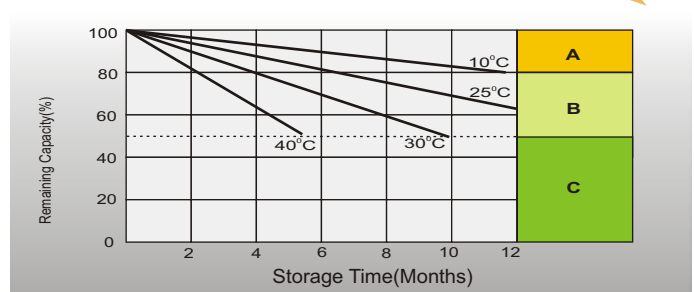
## Effect of Temperature on Long Term Float Life



## 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 20hours at limited current 0.25CA and constant voltage 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.