



valve regulated
sealed lead acid type
rechargeable battery

⊕⊖ **sunbattery**®

SB12-38(12V38AH)

(SB12-38V0)






Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	38.0AH	
Dimension	Length	197±2mm (7.76 inches)
	Width	165±2mm (6.50 inches)
	Container Height	170±2mm (6.69 inches)
	Total Height (with Terminal)	170±2mm (6.69 inches)
Approx Weight	Approx 13.2 Kg (29.1lbs)	
Terminal	T6	
Container Material	ABS	
Rated Capacity	40.6AH/2.03A	(20hr, 1.80V/cell, 25°C/77°F)
	38.0AH/3.80A	(10hr, 1.80V/cell, 25°C/77°F)
	33.1AH/6.61A	(5hr, 1.75V/cell, 25°C/77°F)
	29.6AH/9.88A	(3hr, 1.75V/cell, 25°C/77°F)
	23.6AH/23.6A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	456A (5s)	
Internal Resistance	Approx 10.0mΩ	
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 11.4A. 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	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.	
Life expectancy	8-12 years at 25°C with charge voltage 2.25V/cell.	



Applications

- ◆ UPS and EPS
- ◆ Emergency light
- ◆ Railway signal and aircraft signal system
- ◆ Marine and power stations Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply, DC power supply

 MH45680	 ETL SEMKO	
 ISO14001	 ISO9001	 G104072

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	44.5	37.4	33.2	27.5	21.2	18.2	11.8	8.84	7.24	6.09	5.34	4.28	3.68	1.96
1.80V/cell	50.9	42.0	36.7	29.9	22.9	19.2	12.6	9.50	7.70	6.46	5.66	4.51	3.80	2.03
1.75V/cell	57.8	47.3	40.5	32.5	25.0	20.9	13.1	9.88	7.97	6.61	5.83	4.66	3.90	2.08
1.70V/cell	65.3	52.5	44.7	35.5	26.9	22.1	13.9	10.4	8.32	6.99	6.11	4.85	4.05	2.14
1.65V/cell	70.1	56.2	47.6	37.4	28.5	22.9	14.4	10.8	8.65	7.21	6.33	5.02	4.17	2.20
1.60V/cell	77.1	61.6	51.7	39.9	29.6	23.6	14.7	11.1	8.84	7.39	6.46	5.11	4.25	2.24

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

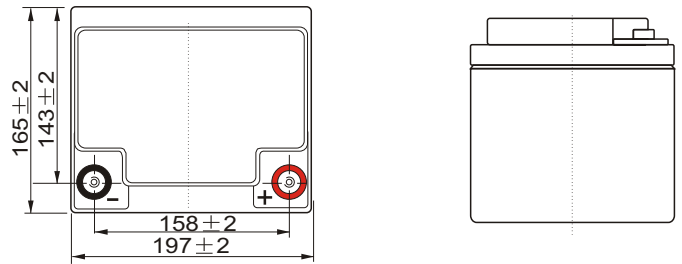
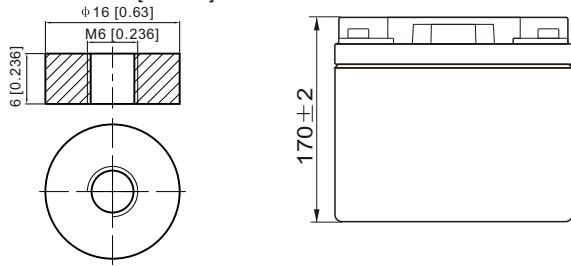
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	83.0	70.5	63.2	53.0	41.2	35.4	23.1	17.4	14.3	12.1	10.6	8.54	7.36	3.93
1.80V/cell	93.9	78.1	68.9	56.7	44.1	37.2	24.6	18.6	15.1	12.7	11.2	8.96	7.58	4.06
1.75V/cell	104.9	87.0	75.4	61.1	47.7	40.3	25.5	19.3	15.6	13.0	11.5	9.24	7.78	4.16
1.70V/cell	115.9	95.2	82.6	66.3	51.2	42.5	26.8	20.2	16.3	13.7	12.0	9.62	8.07	4.26
1.65V/cell	123.3	101.1	87.2	69.4	53.7	43.7	27.7	21.0	16.8	14.1	12.4	9.92	8.29	4.39
1.60V/cell	132.6	109.0	93.7	73.6	55.5	44.8	28.2	21.4	17.2	14.4	12.6	10.1	8.45	4.45



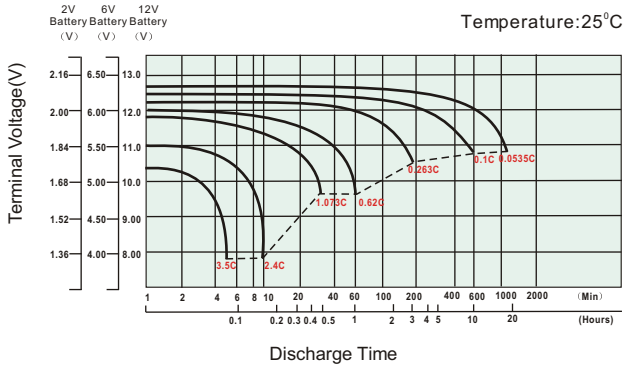
Dimensions

T6 Terminal

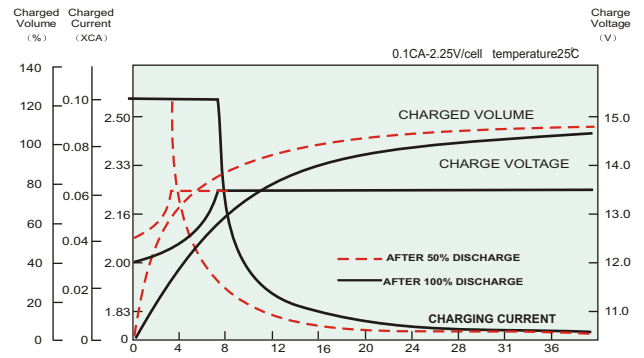
Unit: mm [inches]



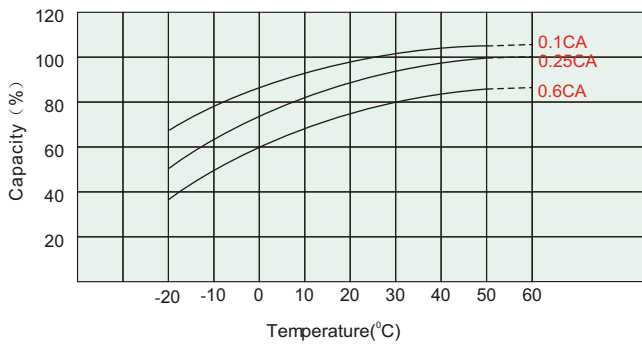
Discharge Characteristics



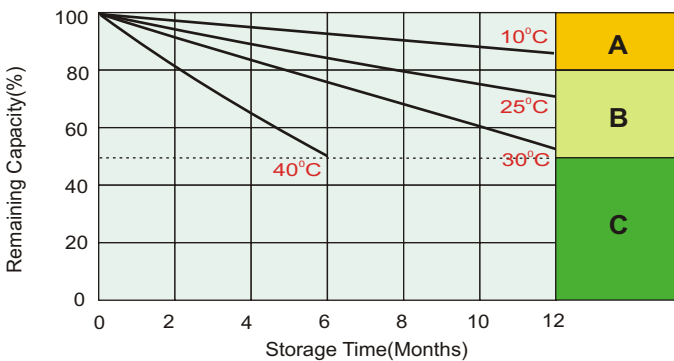
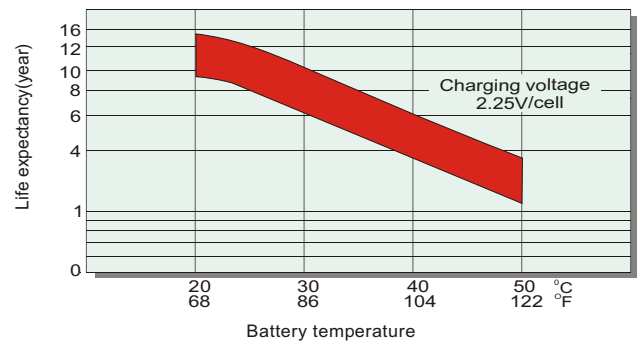
Float Charging Characteristics



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.