



valve regulated
sealed lead acid type
rechargeable battery

sunbattery®

SB12-45 (12V45AH) (SB12-45 V0)



Specification	
Nominal Voltage	12V
Nominal Capacity(20HR)	45.0AH
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 14.5 kg (32.0lbs)
Terminal	T6 / T12
Container Material	ABS UL.94:HB0(optional ABS UL.94:V0)
Rated Capacity	45.0 AH/2.25A (20hr, 1.80V/cell, 25°C/77°F)
	42.8 AH/4.28A (10hr, 1.80V/cell, 25°C/77°F)
	36.8 AH/7.36A (5hr, 1.75V/cell, 25°C/77°F)
	33.3 AH/11.1A (3hr, 1.75V/cell, 25°C/77°F)
	26.1 AH/26.1A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	540A (5s)
Internal Resistance	Approx 9.0mΩ
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 13.5A. 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	40°C (104°F) 103%
	25°C (77°F) 100%
	0°C (32°F) 86%
Capacity affected by Temperature	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.
Self Discharge	
Life expectancy	8~12 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



Intertek ETL SEMKO



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

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

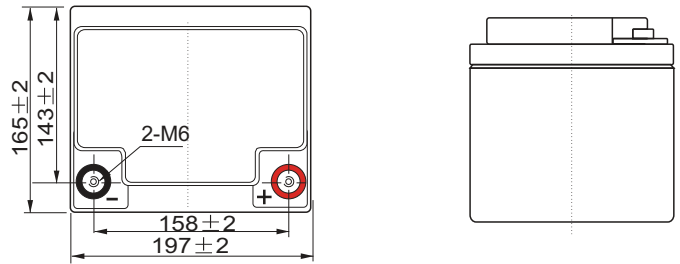
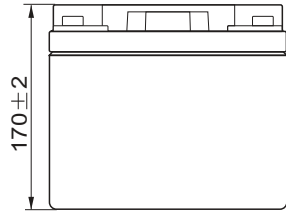
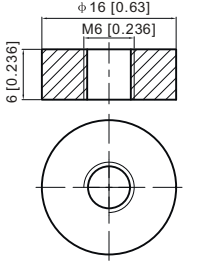
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	73.2	57.6	49.0	40.9	32.5	24.6	20.2	12.8	10.2	8.30	6.69	5.82	4.73	4.04	2.23
1.80V/cell	98.3	73.6	59.1	48.4	38.4	28.6	22.6	14.0	10.9	8.86	7.18	6.25	5.01	4.28	2.25
1.75V/cell	110.8	80.8	64.6	52.1	39.9	29.7	23.6	14.5	11.1	9.06	7.36	6.42	5.10	4.32	2.27
1.70V/cell	122.0	88.1	69.0	54.7	41.5	30.9	24.4	15.1	11.4	9.30	7.55	6.55	5.17	4.36	2.32
1.65V/cell	134.6	95.1	73.3	58.1	43.8	31.7	25.2	15.5	11.9	9.62	7.76	6.70	5.25	4.45	2.35
1.60V/cell	148.4	103.2	78.4	61.9	46.2	33.0	26.1	16.1	12.3	9.92	8.02	6.84	5.30	4.50	2.36

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

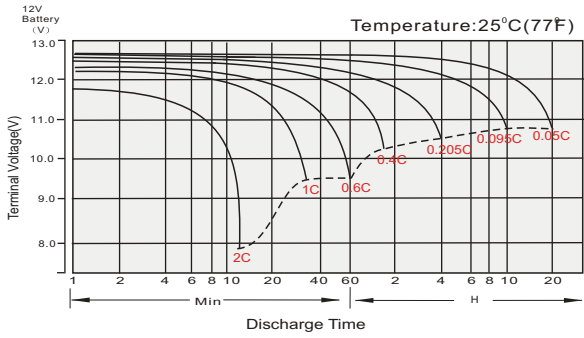
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	133.9	106.3	91.3	77.2	62.0	47.3	38.9	24.9	19.8	16.2	13.1	11.4	9.33	8.00	4.42
1.80V/cell	177.8	134.3	108.9	89.9	72.1	54.6	43.3	27.0	21.2	17.2	14.0	12.2	9.87	8.46	4.46
1.75V/cell	196.2	145.2	117.5	95.8	74.2	56.2	45.1	27.9	21.5	17.6	14.3	12.5	10.0	8.53	4.49
1.70V/cell	210.0	154.6	123.7	99.9	76.8	58.2	46.4	29.0	22.1	18.0	14.7	12.8	10.1	8.61	4.57
1.65V/cell	228.3	165.4	130.5	105.3	80.4	59.1	47.6	29.6	22.9	18.5	15.0	13.0	10.3	8.77	4.63
1.60V/cell	246.0	175.4	137.2	111.0	84.2	61.3	49.1	30.5	23.5	19.0	15.5	13.3	10.4	8.85	4.65

Dimensions

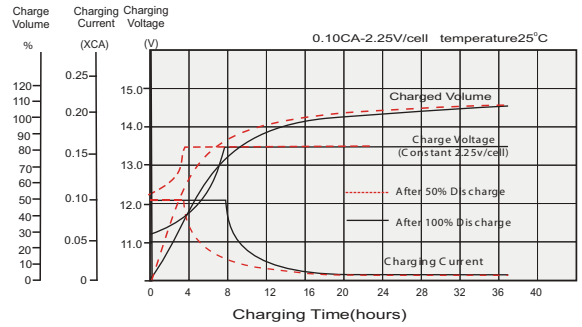
T6 Terminal



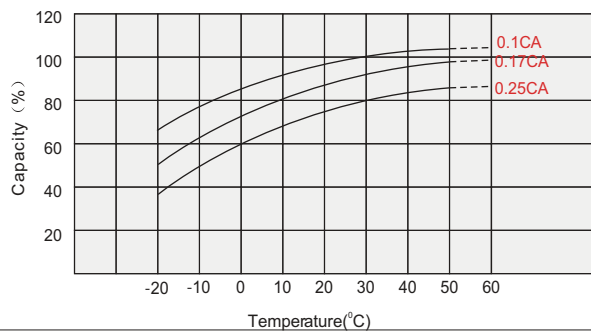
Discharge Characteristics



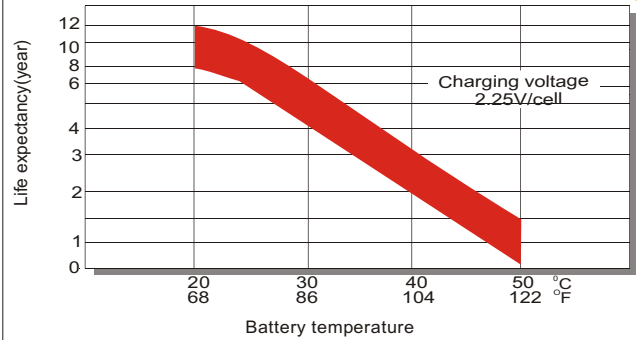
Float Charging Characteristics



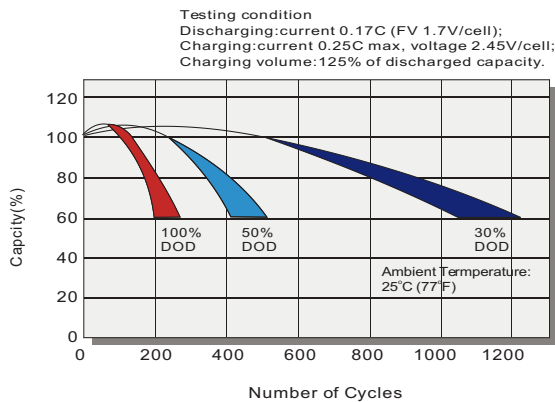
Temperature Effects in Relation to Battery Capacity



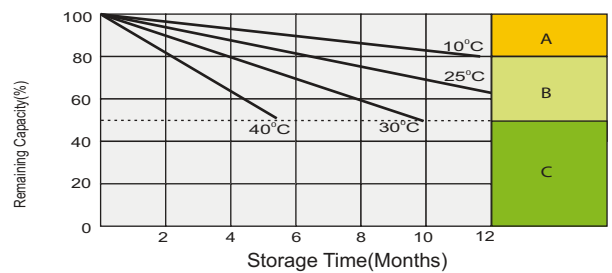
Effect of Temperature on Long Term Float Life



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).
 Supplementary charge required before use. Optional charging ways below:
 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.
- B** Supplementary charge may often fail to recover the capacity. The battery should never be left standing until this is reached.
- C**