

# SPT12-9<sub>(12V9AH)</sub>

## Features

Maintenance-free operation  
Compact design

Stable quality and high reliability  
5 years design time (at 25°C)



## Application

- Telecommunication system
- Alarm and security system
- Backup power for testing and measuring instruments
- UPS
- Emergency lighting
- Fire alarm and security systems
- Auto control system
- Electronic apparatus and equipment
- Communication power supply
- DC power supply

## Specifications

Nominal Voltage	12V (6 cells)	Operating Temp.Range	Discharge: -15 - 50°C (5 - 122°F)
Nominal Capacity	9.0AH (20hr, 1.80V/cell, 25 °C/76°F)		Charge : 0 - 40°C (32 - 104°F)
	8.4AH (10hr, 1.80V/cell, 25 °C/77°F)	Storage : -15 - 40°C (5 - 104°F)	
	7.7AH (5hr, 1.75V/cell, 25 °C/77°F)	Nominal Operating Temp.Range	25 ± 3°C ( 77 ± 5°F)
Dimension	5.4AH (1hr, 1.60V/cell, 25 °C/77°F)	Cycle Use	14.2~14.4V (25°C/77°F) Temp.Coefficient -30mV/°C
	Length 151 ± 2mm	Standby Use	Initial Charging Current Less than 2.7A
	Width 65 ± 2mm		13.5~13.8V (25°C/77°F) Temp.Coefficient -20mV/°C
	Container Height 94 ± 2mm		No limit on Initial Charging Current
Total Height(with Terminal) 100 ± 2mm	Capacity affected by Temperature	40°C (104°F) 103%	
Approx Weight Approx 2.50Kg		25°C (77°F) 100%	
Terminal F1 or F2		0°C (32°F) 86%	
Container Material ABS	Self Discharge	Sunstone SPT series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required.	
Max. Discharge Current 135A (5S)		For higher temperatures the time interval will be shorter.	
Internal Resistance Approx 20mΩ			

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

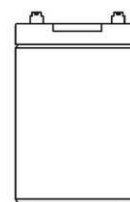
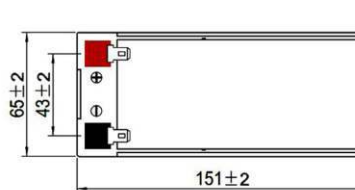
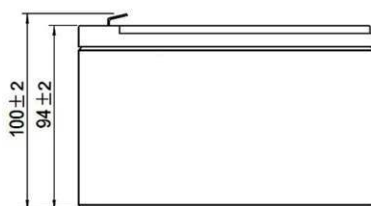
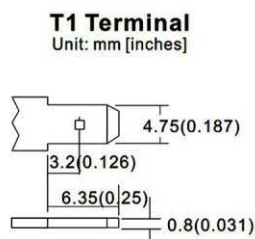
F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	22.27	16.03	13.07	8.15	6.21	4.86	2.92	2.18	1.51	0.046	0.046
1.75V/cell	25.30	18.13	14.18	8.49	6.44	5.11	3.01	2.15	1.54	0.459	0.459
1.70V/cell	27.62	19.56	15.31	8.78	6.65	4.67	3.09	2.30	1.57	0.463	0.463
1.65V/cell	30.06	21.06	16.18	9.26	6.93	4.86	3.18	2.37	1.60	0.470	0.470
1.60V/cell	32.74	22.93	16.92	9.67	7.18	4.96	3.26	2.40	1.63	0.474	0.474

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

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	41.65	29.37	24.08	15.31	11.79	9.64	5.63	4.26	2.98	1.71	0.891
1.75V/cell	46.04	32.43	26.05	15.94	12.28	9.86	5.78	4.35	3.03	1.73	0.904
1.70V/cell	49.16	34.46	27.40	16.48	12.68	10.00	5.91	4.43	3.06	1.74	0.913
1.65V/cell	53.50	36.41	28.41	17.37	13.04	10.33	6.04	4.51	3.13	1.75	0.922
1.60V/cell	57.62	38.61	29.64	17.91	13.39	10.65	6.16	4.60	3.17	1.77	0.930

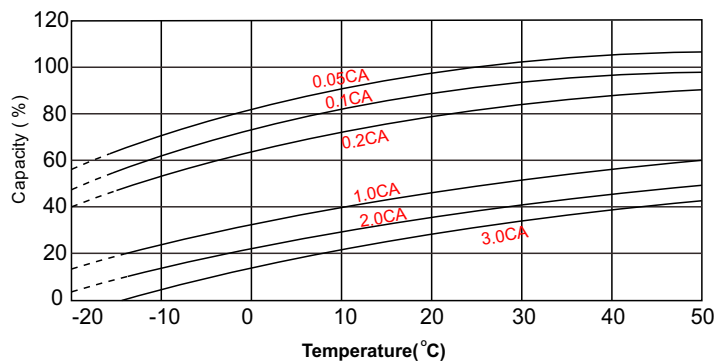
Note: The above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.

## Dimensions unitmm[inches]

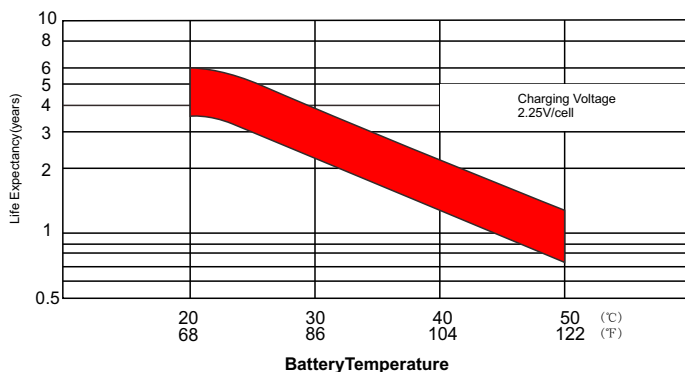


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## Temperature Effects in Relation to Battery Capacity

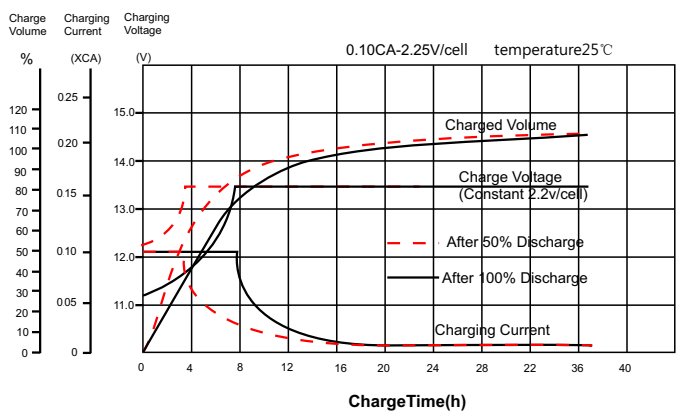


## Effect of temperature on long term float life



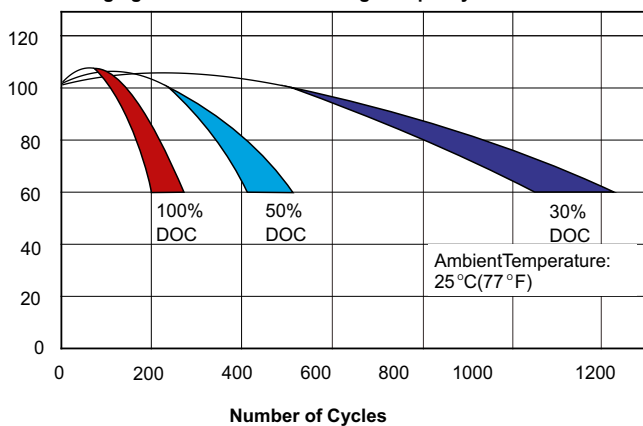
## Float charging characteristics

## Cycle Life in Relation to Depth of Discharge



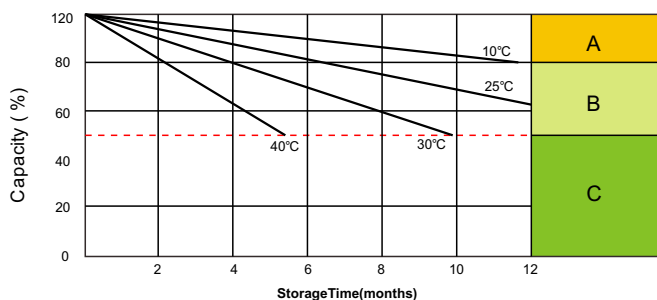
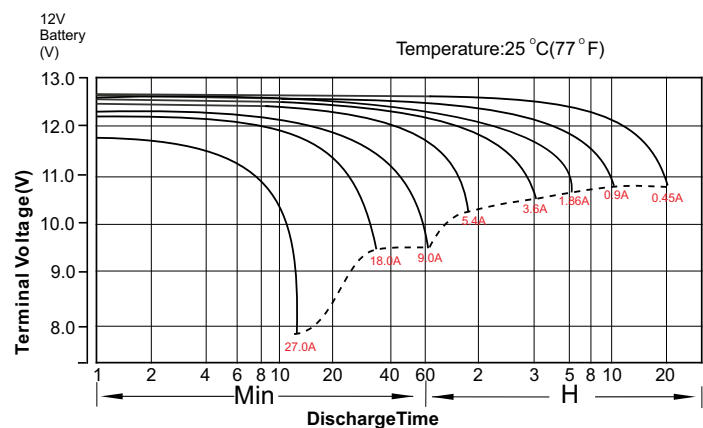
### Testing condition

Discharging: current 0.17C(FV 1.7V/cell);  
Charging: current 0.25C max, voltage 2.45V/cell;  
Charging volume:125% of discharged capacity.



## Discharge characteristics Curve

## 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.