

# S Series General Purpose Battery

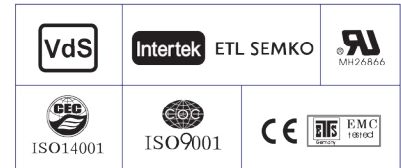
S-650A (6V4.5AH) AGM Sealed Lead Acid

Specifications	
Nominal Voltage	6V
Nominal Capacity	4.5 AH/0.225A (20 hr. to 1.80V/cell @ 77°F/25°C) 4.2 AH/0.419A (10 hr. to 1.80V/cell @ 77°F/25°C) 4.1 AH/0.518A (8 hr. to 1.75V/cell @ 77°F/25°C)
Length	2.76 in. (70±1mm)
Width	1.85 in. (47±1mm)
Total Height (with Terminal)	4.17 in. (106±2mm)
Approx. Weight	Approx. 1.79 lb. (0.81 kg)
Tab Terminal	T1
Container Material	ABS
Max. Discharge Current	67.5A (5s)
Internal Resistance	Approx. 25mΩ
Operating Temp. Range	Discharge: 5° to 130°F (-15° to 55°C) Charge: 32° to 104°F (0° to 40°C) Storage: 5° to 104°F (-15° to 40°C)
Nominal Operating Temp.	77±5°F (25±3°C)
Cycle Use	Initial Charging Current less than 1.35A Voltage 7.2V to 7.5V at 77°F (25°C) Temp. Coefficient -15mV/°C
Stand by Use	Float Voltage: 6.75V at 77°F (25°C) Equalize Voltage: 7.05V at 77°F (25°C)
Capacity Affected by Temperature	104°F (40°C) 103% 77°F (25°C) 100% 32°F (0°C) 86%
Self Discharge	SBS S series batteries may be stored for up to 6 months at 77°F (25°C) and then a freshening charge is required. For higher temperatures the time interval will be shorter.



## Applications

- Telecommunications
- Utility
- Industrial
- Deep cycle
- All purpose



S-650A (6V4.5AH)

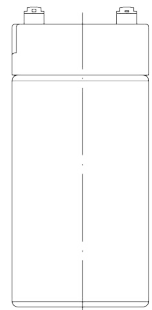
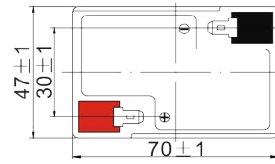
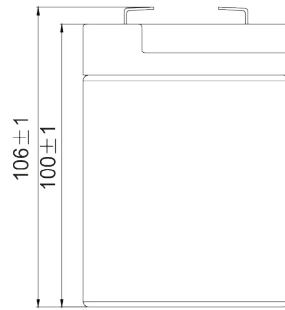
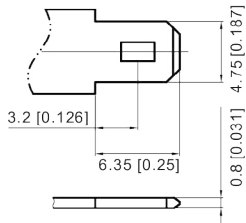
Constant Current Discharge (Amperes) at 77°F (25°C)															
F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr	20 hr
1.85V/cell	8.64	6.02	4.97	4.31	3.46	2.66	2.17	1.33	1.01	0.831	0.706	0.611	0.483	0.404	0.223
1.80V/cell	10.6	7.19	5.76	4.87	3.83	2.90	2.34	1.41	1.06	0.874	0.736	0.638	0.504	0.419	0.225
1.75V/cell	12.6	8.13	6.35	5.31	4.09	3.08	2.46	1.47	1.10	0.901	0.756	0.654	0.518	0.427	0.227
1.70V/cell	14.3	8.96	6.88	5.70	4.29	3.20	2.57	1.53	1.14	0.924	0.775	0.670	0.525	0.434	0.231
1.65V/cell	15.7	9.64	7.27	5.98	4.47	3.32	2.67	1.58	1.17	0.943	0.792	0.683	0.534	0.440	0.234
1.60V/cell	16.5	10.0	7.58	6.17	4.60	3.40	2.73	1.63	1.19	0.966	0.808	0.696	0.545	0.447	0.236

Constant Power Discharge (Watts/cell) at 77°F (25°C)															
F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr	20 hr
1.85V/cell	16.3	11.5	9.55	8.35	6.74	5.21	4.28	2.63	2.01	1.66	1.41	1.23	0.977	0.815	0.450
1.80V/cell	19.8	13.6	11.0	9.37	7.41	5.65	4.58	2.78	2.10	1.73	1.46	1.27	1.01	0.838	0.452
1.75V/cell	23.2	15.2	12.0	10.1	7.86	5.96	4.80	2.88	2.16	1.78	1.49	1.30	1.03	0.849	0.453
1.70V/cell	26.0	16.6	12.9	10.8	8.20	6.16	4.97	2.98	2.22	1.81	1.52	1.32	1.04	0.858	0.459
1.65V/cell	28.3	17.6	13.4	11.2	8.48	6.36	5.15	3.05	2.27	1.84	1.55	1.34	1.05	0.866	0.463
1.60V/cell	29.2	18.1	13.9	11.4	8.62	6.44	5.22	3.13	2.31	1.87	1.57	1.36	1.07	0.876	0.464

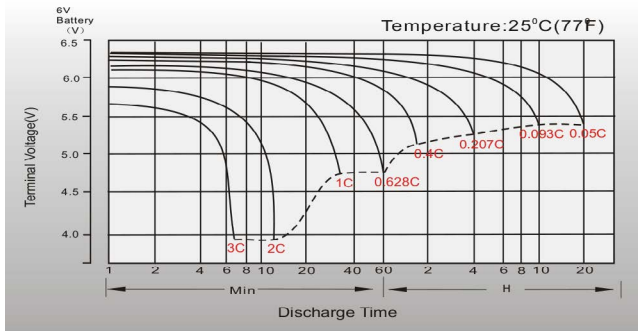
# Dimensions

## T1 Terminal

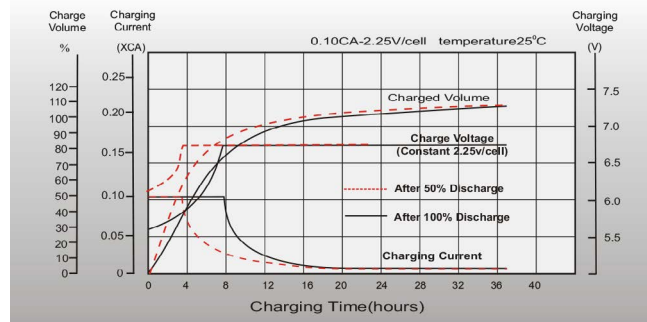
Unit: mm [inches]



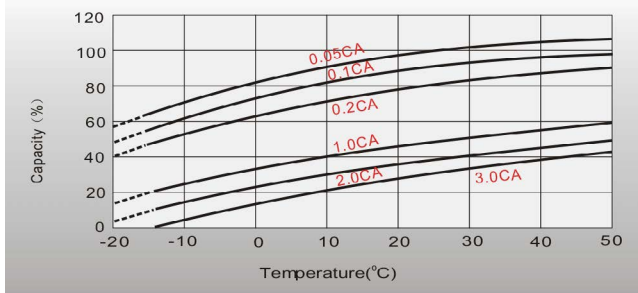
## Discharge Characteristics



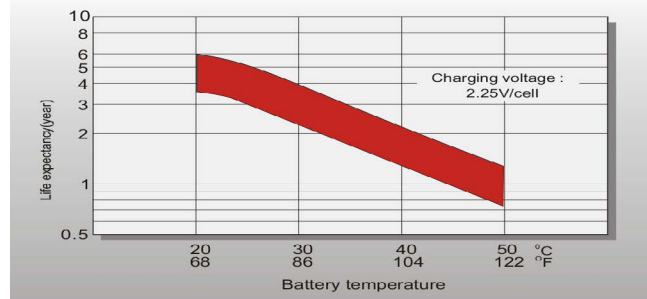
## Float Charging Characteristics



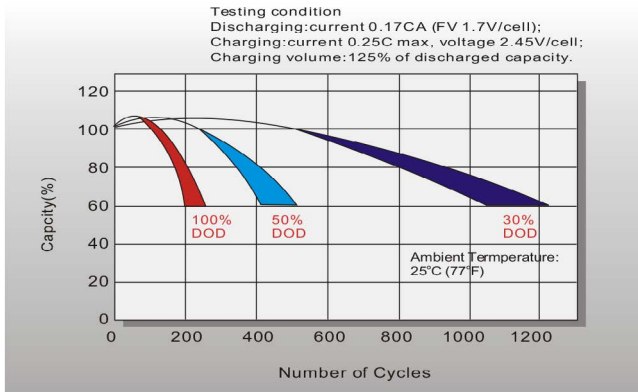
## Temperature Effects in Relation to Battery Capacity



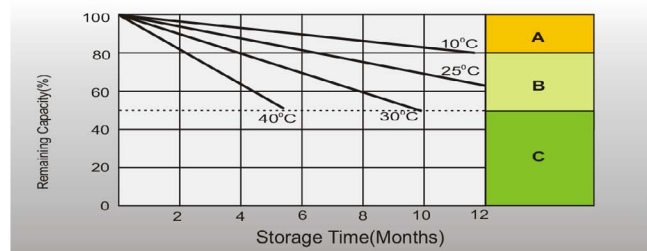
## Effect of Temperature on Long Term Float Life



## 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 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.