

ST SERIES-Standard

ST12009 (12V 9.0AH)

Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	8.5AH	
Dimensions	Length	151±2mm (5.95 inches)
	Width	65±1mm (2.56 inches)
	Container Height	93.5±1mm (3.68 inches)
	Total Height (with Terminal)	99±1mm (3.90 inches)
Approx Weight	Approx 2.45 kg (5.40lbs)	
Terminal	T2	
Container Material	ABS	
Rated Capacity	8.50 AH/0.425A	(20hr, 1.80V/cell, 25°C/77°F)
	7.93 AH/0.793A	(10hr, 1.80V/cell, 25°C/77°F)
	7.15 AH/1.43A	(5hr, 1.75V/cell, 25°C/77°F)
	6.36 AH/2.12A	(3hr, 1.75V/cell, 25°C/77°F)
	5.31 AH/5.31A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	127.5A (5s)	
Internal Resistance	Approx 18mΩ	
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 2.55A. 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	ST 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	19.6	13.9	11.7	9.92	7.41	5.50	4.40	2.62	1.95	1.58	1.33	1.15	0.911	0.753	0.415
1.80V/cell	23.4	16.0	13.1	10.9	8.11	5.93	4.73	2.80	2.07	1.67	1.40	1.21	0.961	0.793	0.425
1.75V/cell	26.1	17.4	14.1	11.6	8.45	6.15	4.90	2.88	2.12	1.70	1.43	1.23	0.978	0.806	0.434
1.70V/cell	28.5	18.8	14.8	12.1	8.77	6.36	5.04	2.96	2.17	1.74	1.45	1.25	0.992	0.816	0.439
1.65V/cell	30.9	19.8	15.4	12.5	9.06	6.56	5.20	3.01	2.22	1.76	1.48	1.27	1.003	0.825	0.443
1.60V/cell	32.6	20.6	15.9	12.8	9.32	6.72	5.31	3.08	2.25	1.80	1.50	1.29	1.013	0.832	0.446

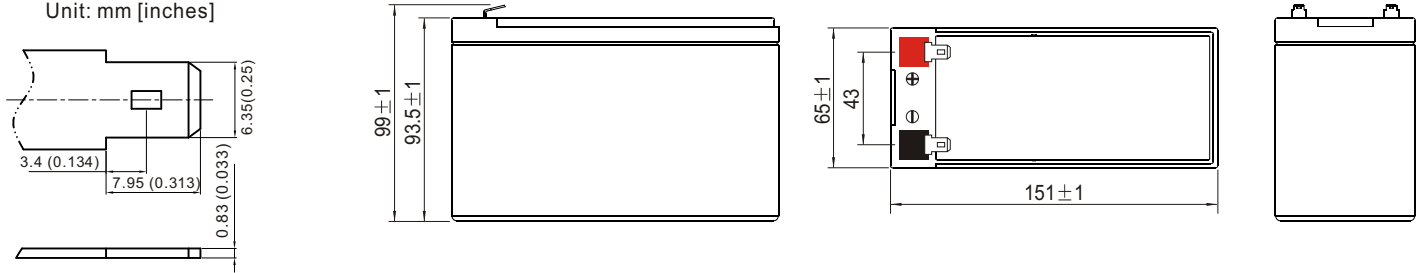
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	36.9	26.4	22.4	19.2	14.5	10.8	8.67	5.18	3.88	3.15	2.67	2.32	1.83	1.52	0.839
1.80V/cell	43.6	30.2	24.9	21.1	15.8	11.6	9.28	5.53	4.10	3.32	2.80	2.43	1.93	1.59	0.855
1.75V/cell	48.4	32.7	26.7	22.2	16.3	12.0	9.61	5.67	4.18	3.36	2.83	2.45	1.95	1.61	0.869
1.70V/cell	51.9	34.8	27.7	22.9	16.8	12.3	9.79	5.77	4.26	3.41	2.86	2.48	1.96	1.62	0.872
1.65V/cell	55.5	36.2	28.4	23.4	17.2	12.5	10.0	5.83	4.31	3.44	2.89	2.49	1.97	1.63	0.874
1.60V/cell	57.2	36.7	28.9	23.6	17.4	12.7	10.1	5.92	4.34	3.48	2.92	2.52	1.98	1.64	0.876

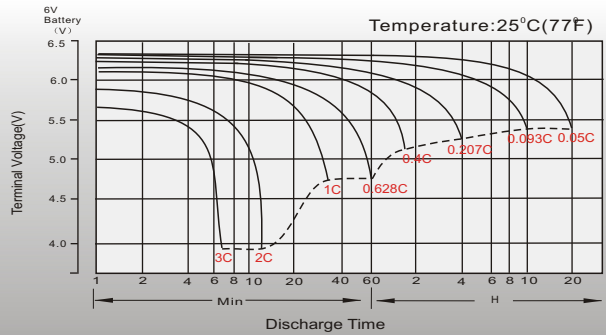
Dimensions

T2 Terminal

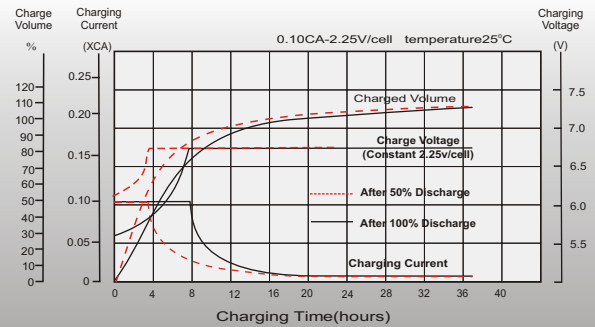
Unit: mm [inches]



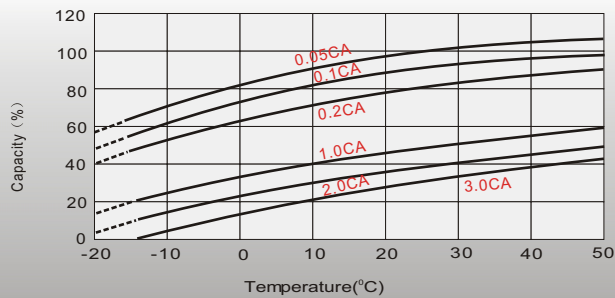
Discharge Characteristics



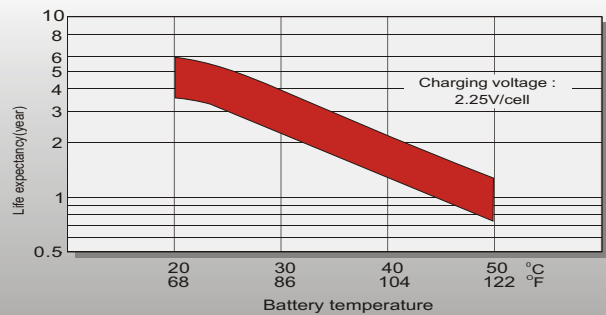
Float Charging Characteristics



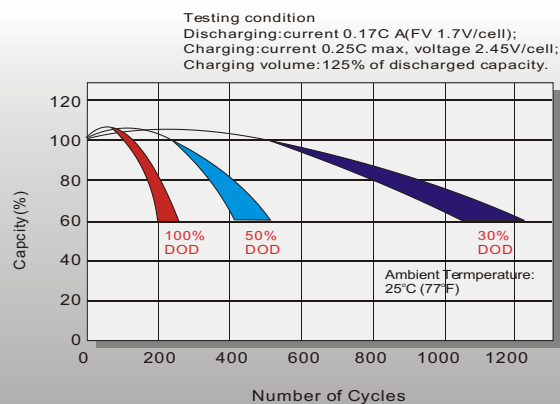
Temperature Effects in Relation to Battery Capacity



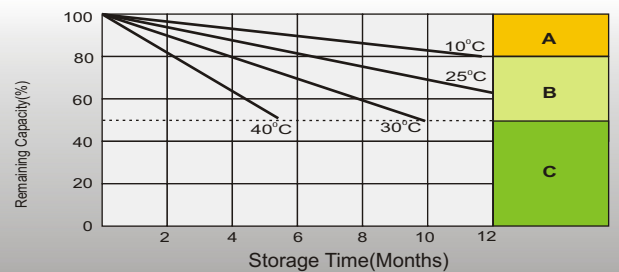
Effect of Temperature on Long Term Float Life



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.)

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.