

ST SERIES-Standard

ST12002.1(12V2.1AH)



Specification	
Nominal Voltage	12V
Nominal Capacity(20HR)	2.1AH
Dimensions	Length 178±2mm (7.00 inches)
	Width 35±1mm (1.38 inches)
	Container Height 60±1mm (2.36 inches)
	Total Height (with Terminal) 66±1mm (2.60 inches)
Approx Weight	Approx 0.96 kg (2.12lbs)
Terminal	T1
Container Material	ABS
Rated Capacity	2.10 AH/0.105A (20hr, 1.80V/cell, 25°C/77°F)
	1.90AH/0.190A (10hr, 1.80V/cell, 25°C/77°F)
	1.67 AH/0.334A (5hr, 1.75V/cell, 25°C/77°F)
	1.49AH/0.497A (3hr, 1.75V/cell, 25°C/77°F)
	1.22 AH/1.22A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	31.5A (5s)
Internal Resistance	Approx 70mΩ
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 0.63A. 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	
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	4.03	2.81	2.32	1.99	1.60	1.21	0.972	0.600	0.457	0.368	0.312	0.276	0.224	0.185	0.104
1.80V/cell	4.96	3.35	2.69	2.25	1.77	1.32	1.05	0.637	0.480	0.387	0.325	0.288	0.232	0.190	0.105
1.75V/cell	5.87	3.79	2.97	2.45	1.89	1.41	1.10	0.665	0.497	0.399	0.334	0.295	0.239	0.194	0.106
1.70V/cell	6.66	4.18	3.21	2.63	1.98	1.46	1.15	0.692	0.514	0.409	0.342	0.303	0.243	0.198	0.108
1.65V/cell	7.35	4.50	3.39	2.76	2.06	1.52	1.19	0.713	0.527	0.417	0.350	0.308	0.246	0.201	0.109
1.60V/cell	7.71	4.69	3.54	2.85	2.12	1.55	1.22	0.735	0.539	0.427	0.357	0.314	0.252	0.205	0.110

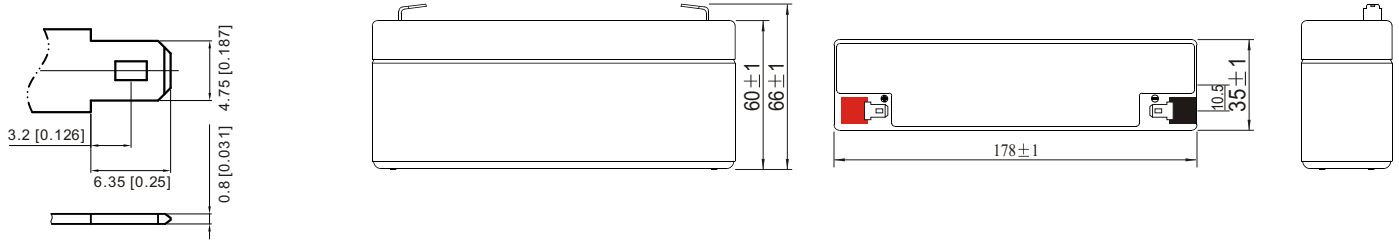
Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	7.60	5.35	4.46	3.86	3.11	2.38	1.91	1.19	0.908	0.734	0.624	0.554	0.451	0.373	0.210
1.80V/cell	9.24	6.33	5.12	4.33	3.42	2.58	2.05	1.25	0.949	0.767	0.647	0.575	0.463	0.380	0.211
1.75V/cell	10.8	7.08	5.60	4.68	3.63	2.72	2.14	1.30	0.977	0.786	0.660	0.585	0.475	0.387	0.212
1.70V/cell	12.1	7.73	6.01	4.98	3.79	2.81	2.22	1.35	1.00	0.801	0.673	0.596	0.479	0.391	0.214
1.65V/cell	13.2	8.21	6.28	5.18	3.91	2.90	2.30	1.38	1.02	0.814	0.685	0.605	0.484	0.396	0.216
1.60V/cell	13.6	8.44	6.47	5.28	3.98	2.94	2.33	1.41	1.04	0.828	0.694	0.613	0.492	0.402	0.216

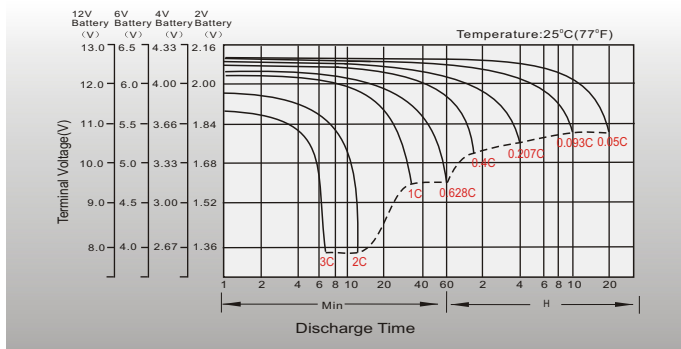
Dimensions

T1 Terminal

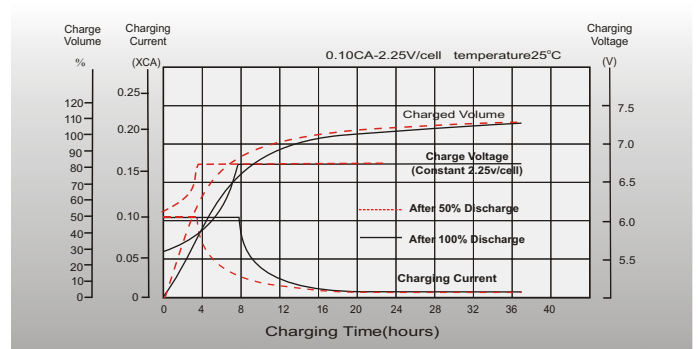
Unit: mm [inches]



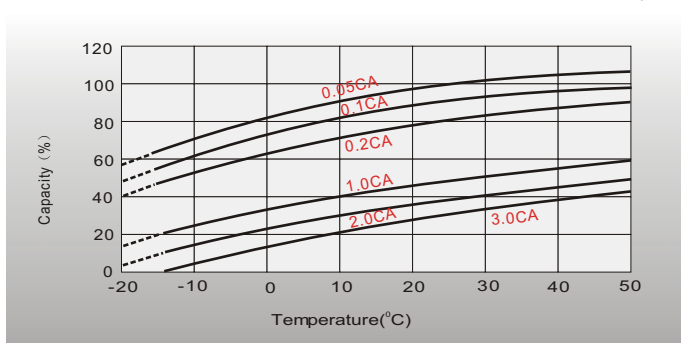
Discharge Characteristics



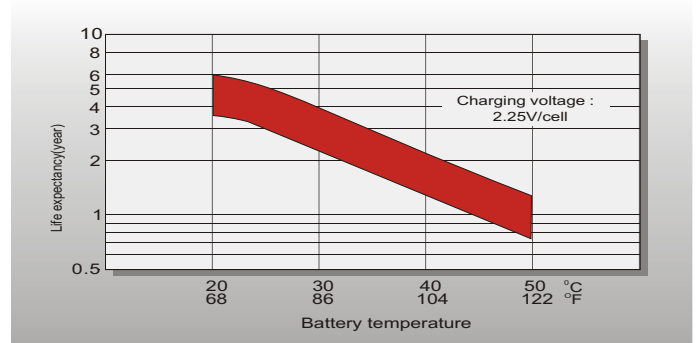
Float Charging Characteristics



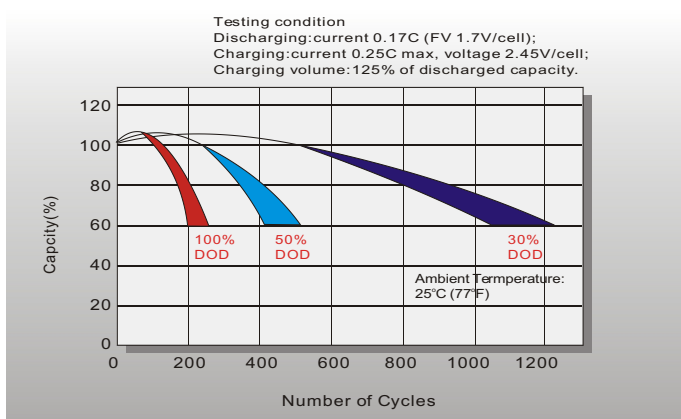
Temperature Effects in Relation to Battery Capacity



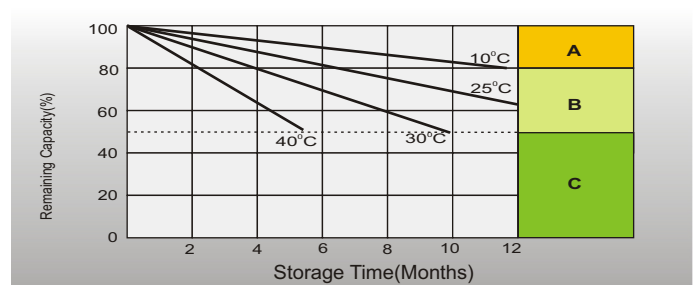
Effect of Temperature on Long Term Float Life



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 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.