



# GENERAL PURPOSE **BATTERIES**

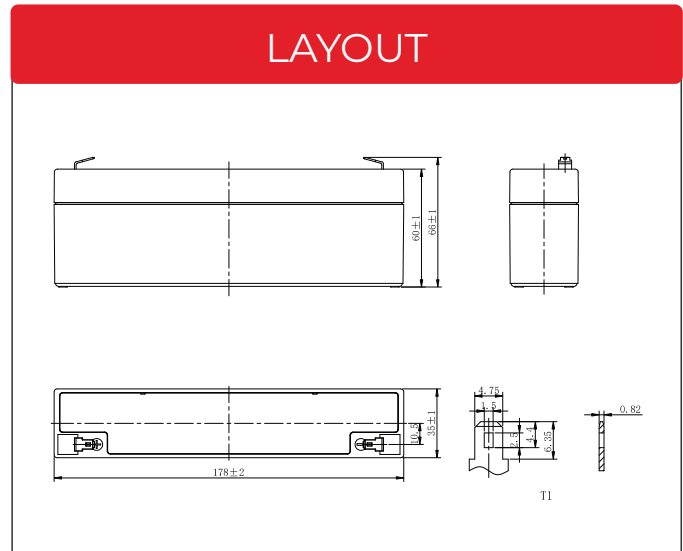
ST12-2.3 (12V 2.3Ah)



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# ST SERIES - GENERAL PURPOSE

## ST12-2.3



### General Features

- ✓ 5 years design life(25°C)
- ✓ Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- ✓ PbCaSn alloy for plate grids: less gassing, less self-discharging
- ✓ High quality AGM separator: extend cycle life and prevent micro short circuit
- ✓ High purity raw material: ensure low self discharge rate

### Applications

- ✓ All purpose
- ✓ Uninterruptable Power Supply (UPS)
- ✓ Electric Power System (EPS)
- ✓ Emergency backup power supply
- ✓ Alarm and security system
- ✓ Communication power supply
- ✓ DC power supply
- ✓ Auto control system

### Standards

- ✓ Compliance with IEC 60896 standards, EU Battery Directive
- ✓ UL, CE Certified
- ✓ Manufactured in Starmax® IATF16949, ISO45001, ISO 9001 and ISO 14001 certified production facilities



# SPECIFICATIONS

Rated Voltage	12V	
Nominal Capacity	2.3Ah	(C <sub>20</sub> ,1.75V/cell)
Dimensions	Length	178±2mm (7.00 inches)
	Width	35±1mm (1.38 inches)
	Container height	60±1mm (2.36 inches)
	Total height	66±1mm (2.60 inches)
Approx. weight	0.93 Kg (2.05 lbs)	
Terminal	T1	
Container material	ABS	
Rated capacity (25°C)	2.30 Ah	(20hr,0.115A,1.75V/cell)
	2.16 Ah	(10hr,0.216A,1.75V/cell)
	1.98 Ah	(5hr,0.396A,1.75V/cell)
	1.76 Ah	(3hr,0.587A,1.75V/cell)
	1.45 Ah	(1hr,1.45A,1.60V/cell)
Max. discharge current	34.5A (5s)	
Internal resistance (25°C)	Approx 95mΩ	
Operating temp. range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°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 0.69A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 0.69A. Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Effect of temp. to Capacity	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.	

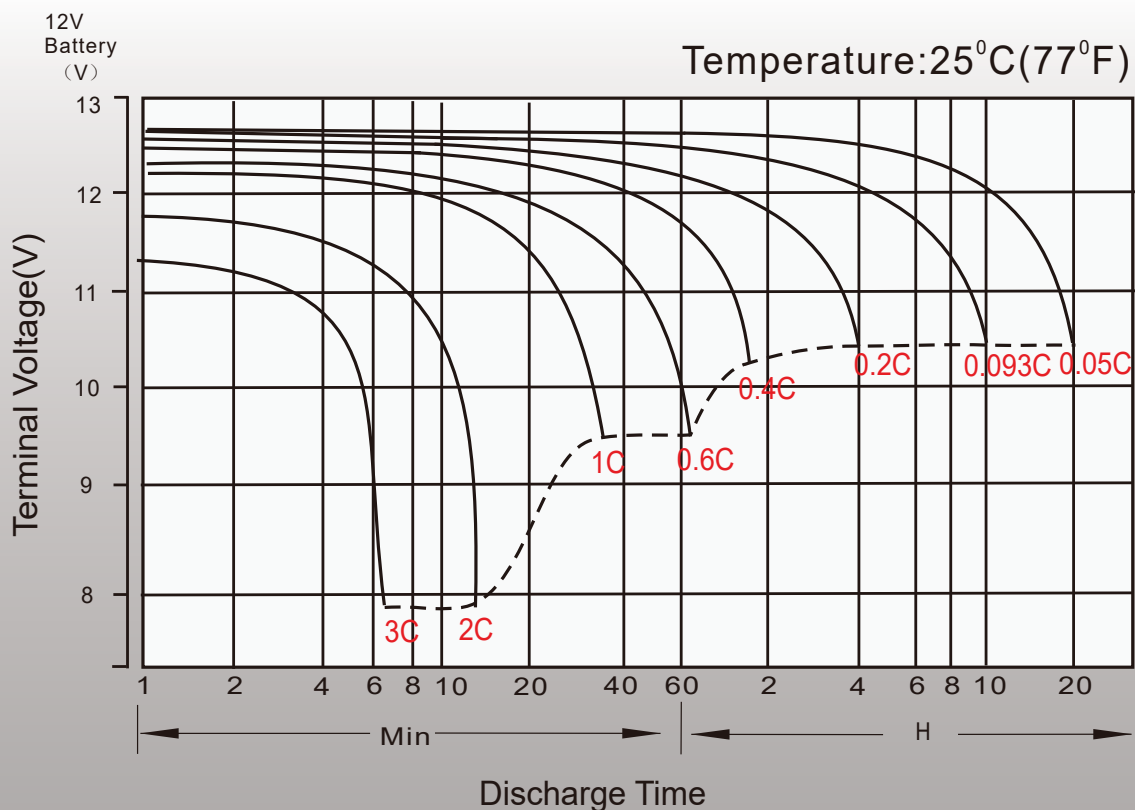
### Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	6.10	4.48	3.56	2.90	2.16	1.62	1.32	0.989	0.792	0.569	0.453	0.385	0.329	0.259	0.211	0.113
1.80V/cell	6.61	4.71	3.70	2.99	2.21	1.65	1.35	1.01	0.804	0.578	0.459	0.391	0.334	0.262	0.214	0.114
1.75V/cell	7.14	4.94	3.83	3.08	2.27	1.69	1.37	1.02	0.817	0.587	0.466	0.396	0.338	0.265	0.216	0.115
1.70V/cell	7.68	5.17	3.97	3.17	2.32	1.72	1.40	1.04	0.830	0.595	0.472	0.401	0.342	0.269	0.219	0.116
1.67V/cell	7.99	5.31	4.05	3.23	2.35	1.74	1.41	1.05	0.838	0.600	0.476	0.404	0.345	0.271	0.221	0.117
1.60V/cell	8.71	5.63	4.24	3.35	2.42	1.78	1.45	1.07	0.855	0.612	0.485	0.411	0.351	0.275	0.224	0.118

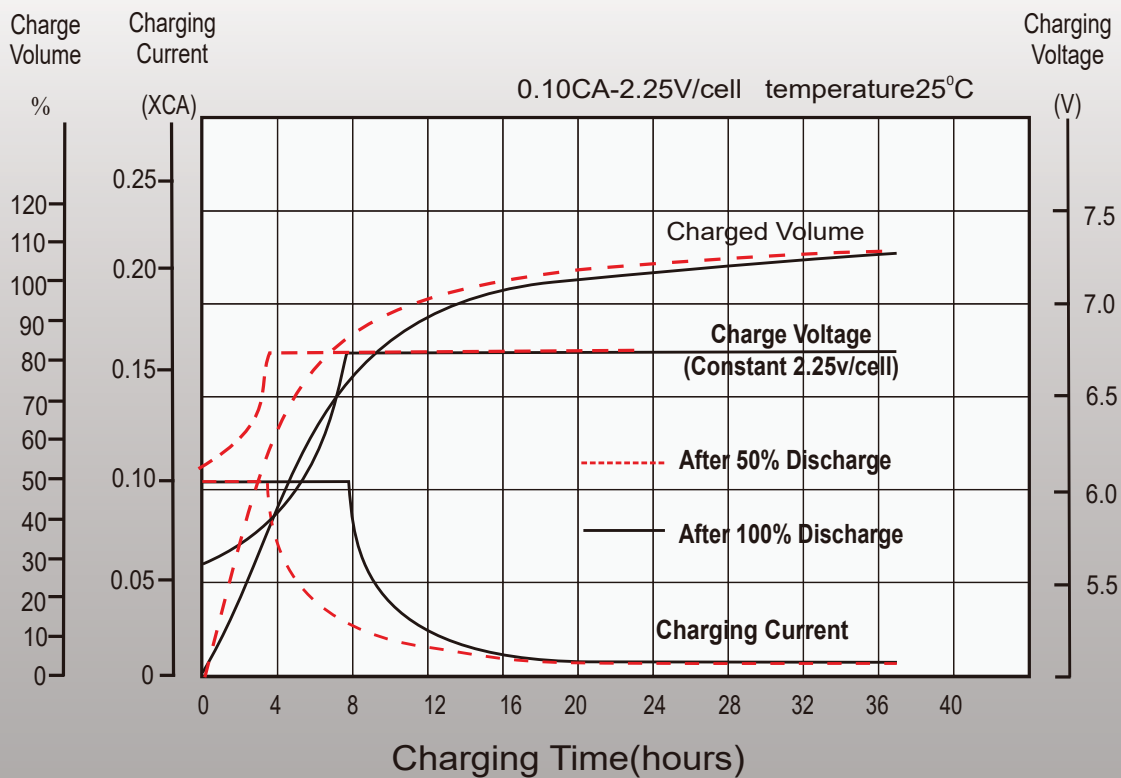
### Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	11.6	8.58	6.83	5.58	4.17	3.14	2.58	1.93	1.55	1.12	0.892	0.761	0.652	0.514	0.420	0.225
1.80V/cell	12.5	8.96	7.07	5.73	4.26	3.20	2.62	1.96	1.57	1.13	0.903	0.770	0.660	0.519	0.425	0.228
1.75V/cell	13.4	9.35	7.28	5.88	4.34	3.25	2.65	1.98	1.59	1.15	0.914	0.779	0.667	0.525	0.430	0.229
1.70V/cell	14.3	9.73	7.50	6.02	4.42	3.30	2.69	2.01	1.61	1.16	0.925	0.788	0.675	0.531	0.434	0.232
1.67V/cell	14.8	9.96	7.64	6.11	4.47	3.33	2.71	2.03	1.62	1.17	0.931	0.793	0.679	0.535	0.437	0.232
1.60V/cell	16.0	10.5	7.93	6.31	4.58	3.40	2.77	2.06	1.65	1.19	0.947	0.805	0.690	0.543	0.444	0.235

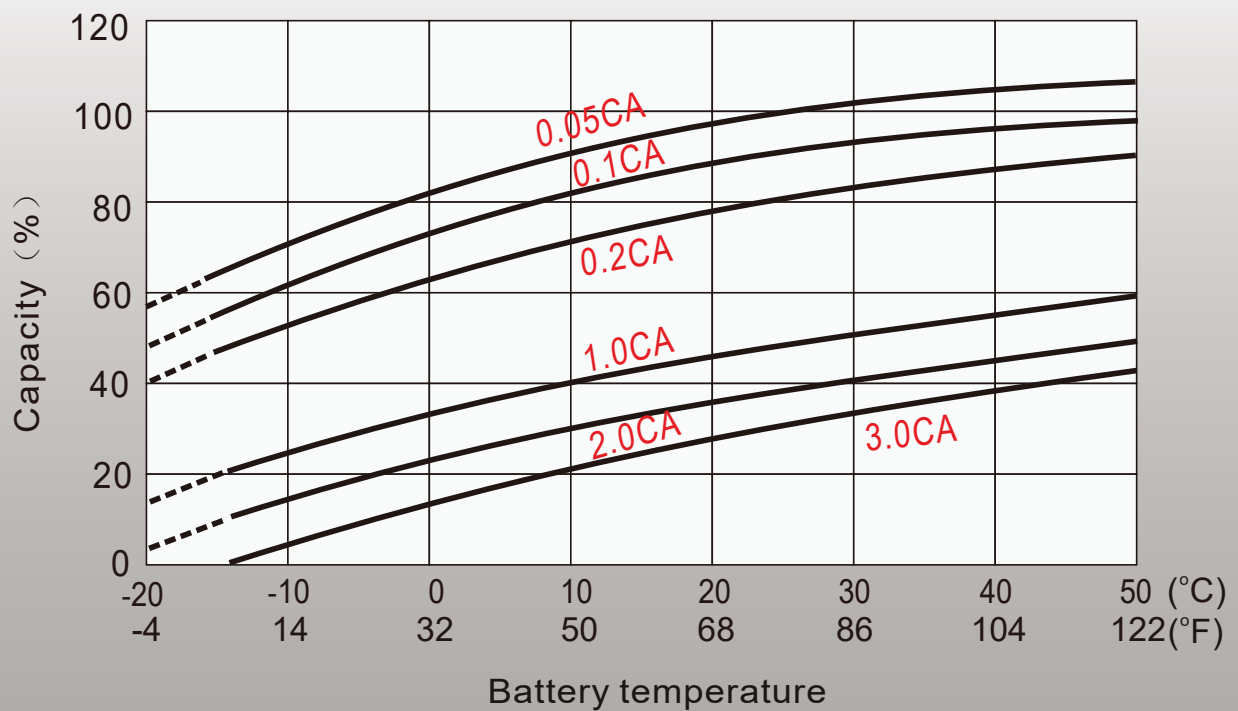
## Discharge Characteristics



# Float Charging Characteristics



# Temperature Effects in Relation to Battery Capacity



# Float Service Life



# ST12-2.3 (12V 2.3Ah)



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