



# GENERAL PURPOSE **BATTERIES**

ST12-24 (12V 24Ah)



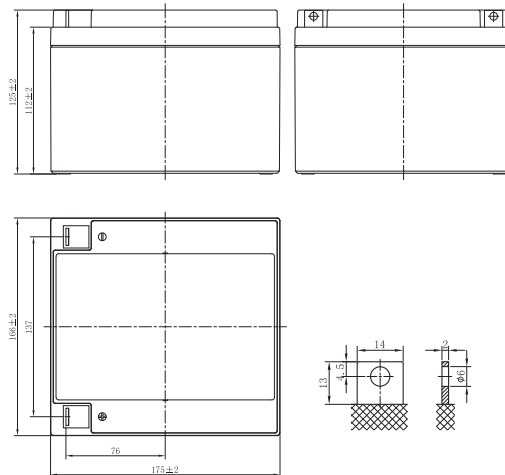
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# ST SERIES - GENERAL PURPOSE

## ST12-24



### LAYOUT



## 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	24.0Ah	(C <sub>20</sub> ,1.75V/cell)
Dimensions	Length	166±2mm (6.54 inches)
	Width	175±2mm (6.93 inches)
	Container height	125±2mm (4.92 inches)
	Total height	125±2mm (4.92 inches)
Approx. weight	7.2 Kg (15.9 lbs)	
Terminal	T3	
Container material	ABS	
Rated capacity (25°C)	24.0 Ah	(20hr,1.20A,1.75V/cell)
	22.7 Ah	(10hr,2.27A,1.75V/cell)
	19.9 Ah	(5hr,3.97A,1.75V/cell)
	17.3 Ah	(3hr,5.75A,1.75V/cell)
	14.3 Ah	(1hr,14.3A,1.60V/cell)
Max. discharge current	360A (5s)	
Internal resistance (25°C)	Approx 18mΩ	
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 7.2A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 7.2A. 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.	

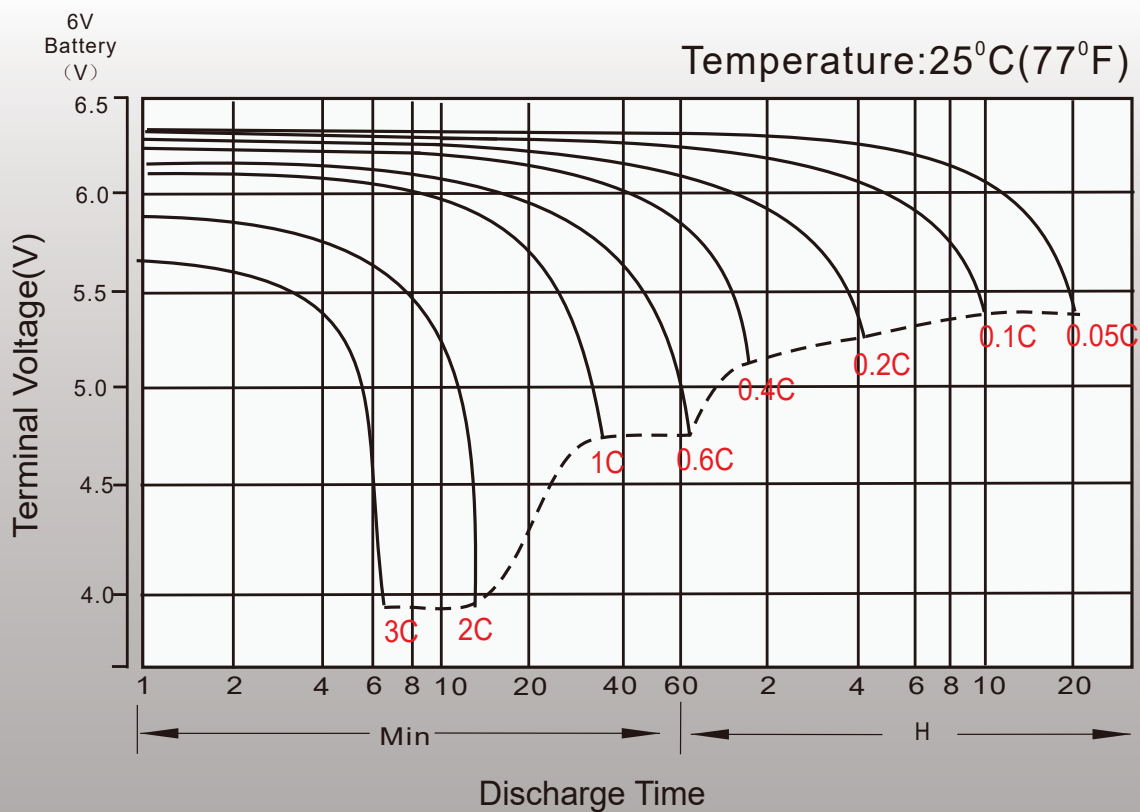
### Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	60.6	42.2	33.8	28.1	21.2	15.6	13.0	9.61	7.63	5.57	4.49	3.86	3.34	2.67	2.22	1.17
1.80V/cell	65.2	44.7	35.5	29.3	21.8	16.1	13.3	9.80	7.78	5.66	4.55	3.92	3.40	2.71	2.25	1.19
1.75V/cell	68.7	46.5	36.7	30.1	22.4	16.4	13.6	10.0	7.92	5.75	4.61	3.97	3.43	2.74	2.27	1.20
1.70V/cell	72.0	48.4	37.9	30.9	23.0	16.8	13.8	10.2	8.03	5.84	4.68	4.02	3.48	2.76	2.29	1.21
1.67V/cell	74.4	49.8	38.9	31.6	23.4	17.1	14.0	10.3	8.12	5.89	4.72	4.06	3.51	2.79	2.31	1.22
1.60V/cell	79.0	51.9	40.2	32.5	24.0	17.5	14.3	10.5	8.29	6.00	4.81	4.12	3.56	2.82	2.34	1.23

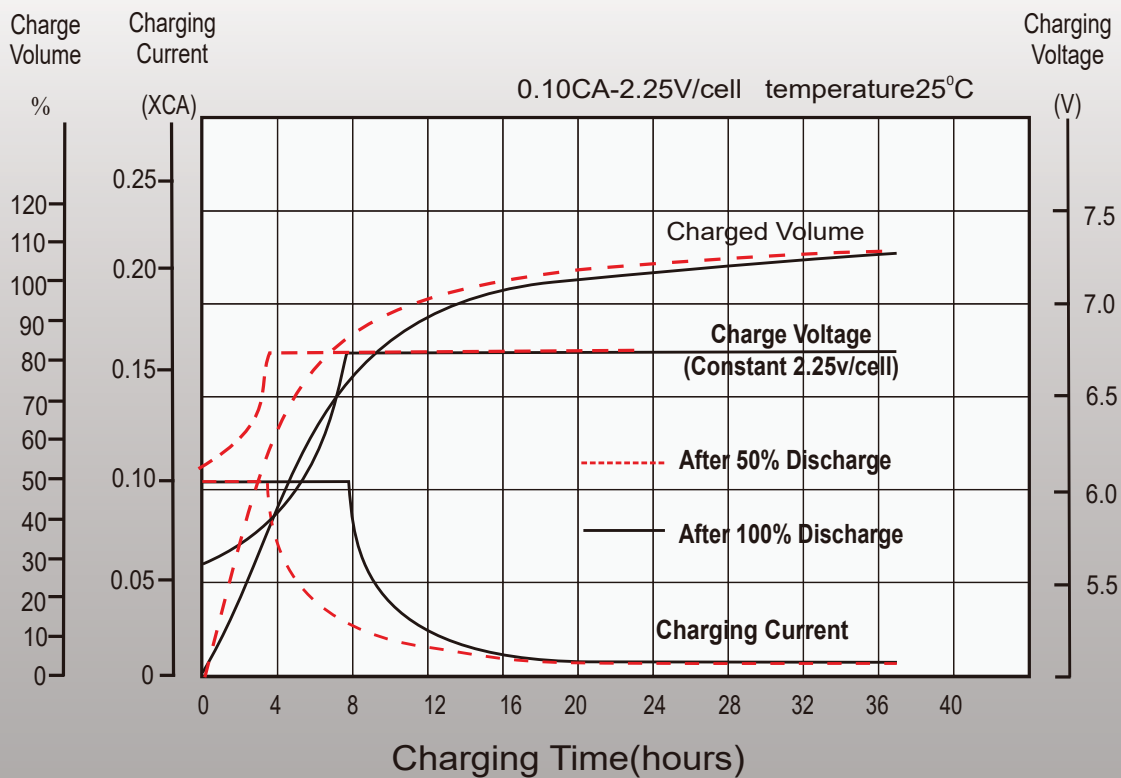
### Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	114.7	80.3	64.8	54.2	40.9	30.4	25.2	18.8	14.9	10.9	8.84	7.62	6.61	5.29	4.41	2.35
1.80V/cell	122.2	84.6	67.6	56.1	42.0	31.1	25.8	19.1	15.2	11.1	8.95	7.72	6.71	5.36	4.46	2.37
1.75V/cell	127.3	87.3	69.4	57.3	42.9	31.6	26.2	19.4	15.4	11.3	9.06	7.81	6.77	5.41	4.50	2.40
1.70V/cell	132.0	90.2	71.3	58.6	43.8	32.2	26.6	19.7	15.6	11.4	9.17	7.91	6.85	5.46	4.55	2.42
1.67V/cell	135.5	92.2	72.8	59.7	44.4	32.6	26.9	19.9	15.8	11.5	9.25	7.96	6.90	5.50	4.58	2.44
1.60V/cell	141.0	94.9	74.8	61.2	45.4	33.2	27.4	20.2	16.0	11.7	9.39	8.07	6.99	5.58	4.63	2.47

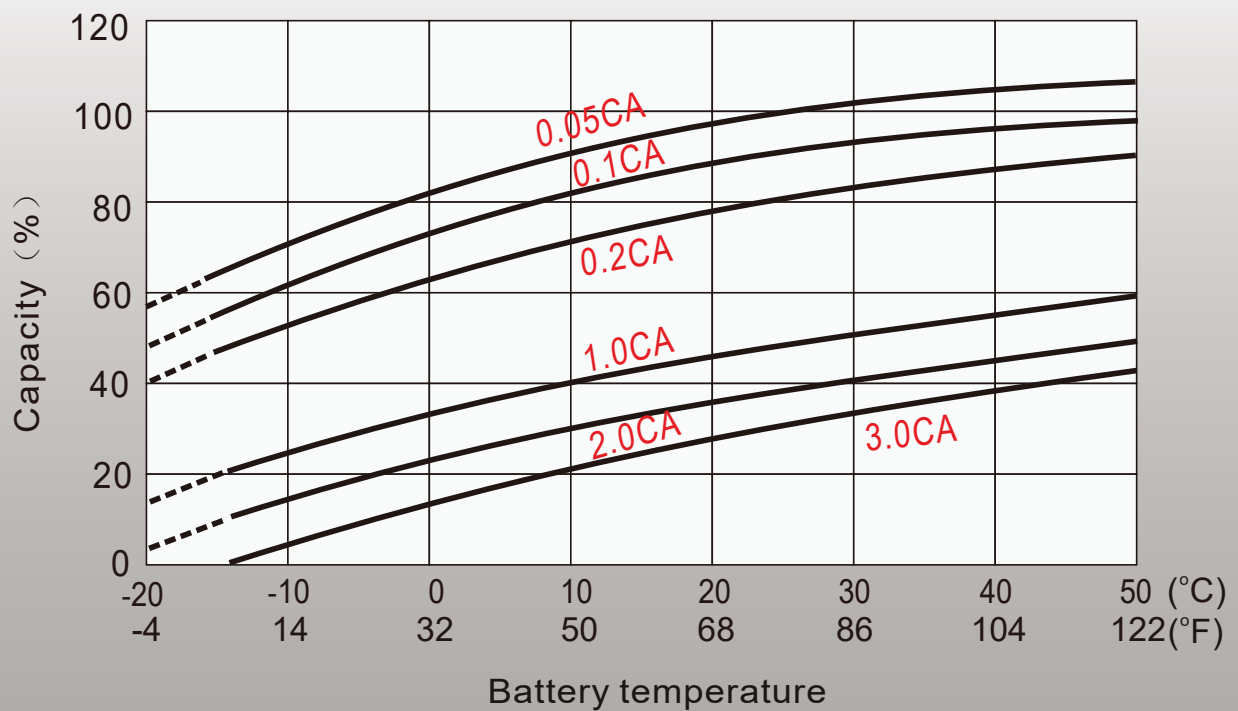
## Discharge Characteristics



# Float Charging Characteristics



# Temperature Effects in Relation to Battery Capacity



# Float Service Life



# ST12-24 (12V 24Ah)



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