



# GENERAL PURPOSE **BATTERIES**

ST12-20 (12V 20Ah)



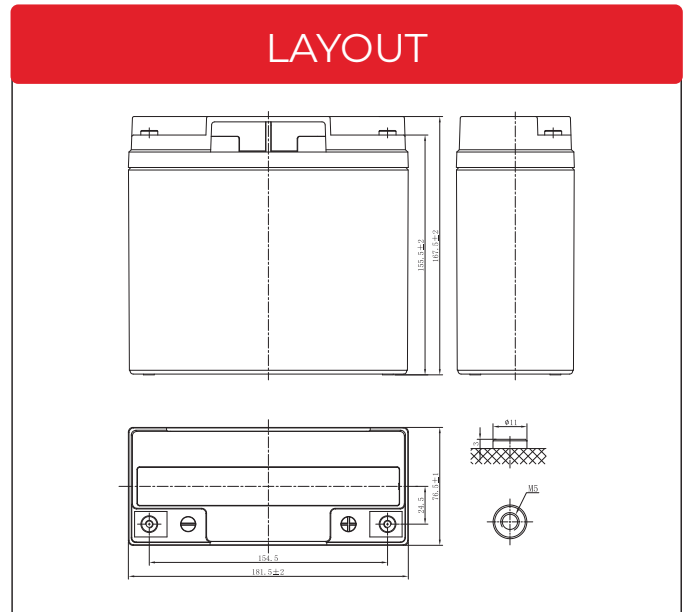
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# ST SERIES - GENERAL PURPOSE

## ST12-20



### 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	20.0Ah	(C <sub>20</sub> ,1.75V/cell)
Dimensions	Length	181.5±2mm (7.14 inches)
	Width	76.5±1mm (3.01 inches)
	Container height	167.5±2mm (6.59 inches)
	Total height	167.5±2mm (6.59 inches)
Approx. weight	5.65 Kg (12.46 lbs)	
Terminal	M5	
Container material	ABS	
Rated capacity (25°C)	20.0 Ah	(20hr,1.00A,1.75V/cell)
	18.9 Ah	(10hr,1.89A,1.75V/cell)
	17.2 Ah	(5hr,3.44A,1.75V/cell)
	15.3 Ah	(3hr,5.10A,1.75V/cell)
	13.1 Ah	(1hr,13.1A,1.60V/cell)
Max. discharge current	300A (5s)	
Internal resistance (25°C)	Approx 16mΩ	
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 6.0A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 6.0A. 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.	

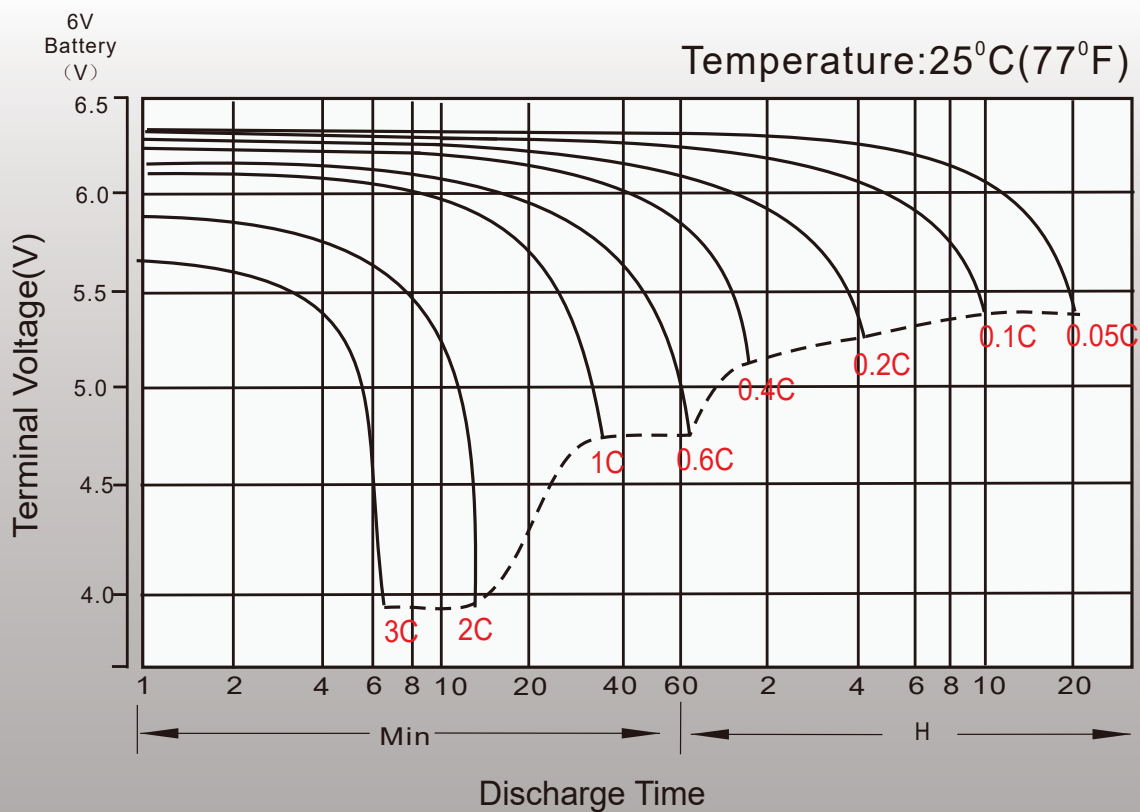
### Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	62.2	42.6	33.2	27.0	19.9	14.5	11.9	8.71	6.85	4.94	3.94	3.35	2.87	2.26	1.85	0.978
1.80V/cell	66.9	45.2	34.8	28.1	20.5	14.9	12.2	8.89	6.97	5.02	3.99	3.40	2.91	2.29	1.87	0.989
1.75V/cell	70.5	47.0	36.0	28.8	21.0	15.2	12.4	9.06	7.10	5.10	4.05	3.44	2.95	2.32	1.89	1.00
1.70V/cell	73.8	48.9	37.2	29.7	21.6	15.6	12.7	9.21	7.20	5.18	4.10	3.49	2.98	2.34	1.91	1.01
1.67V/cell	76.4	50.3	38.1	30.3	21.9	15.8	12.9	9.33	7.28	5.23	4.14	3.52	3.01	2.36	1.92	1.02
1.60V/cell	81.0	52.4	39.4	31.2	22.5	16.2	13.1	9.53	7.43	5.32	4.22	3.58	3.05	2.39	1.95	1.03

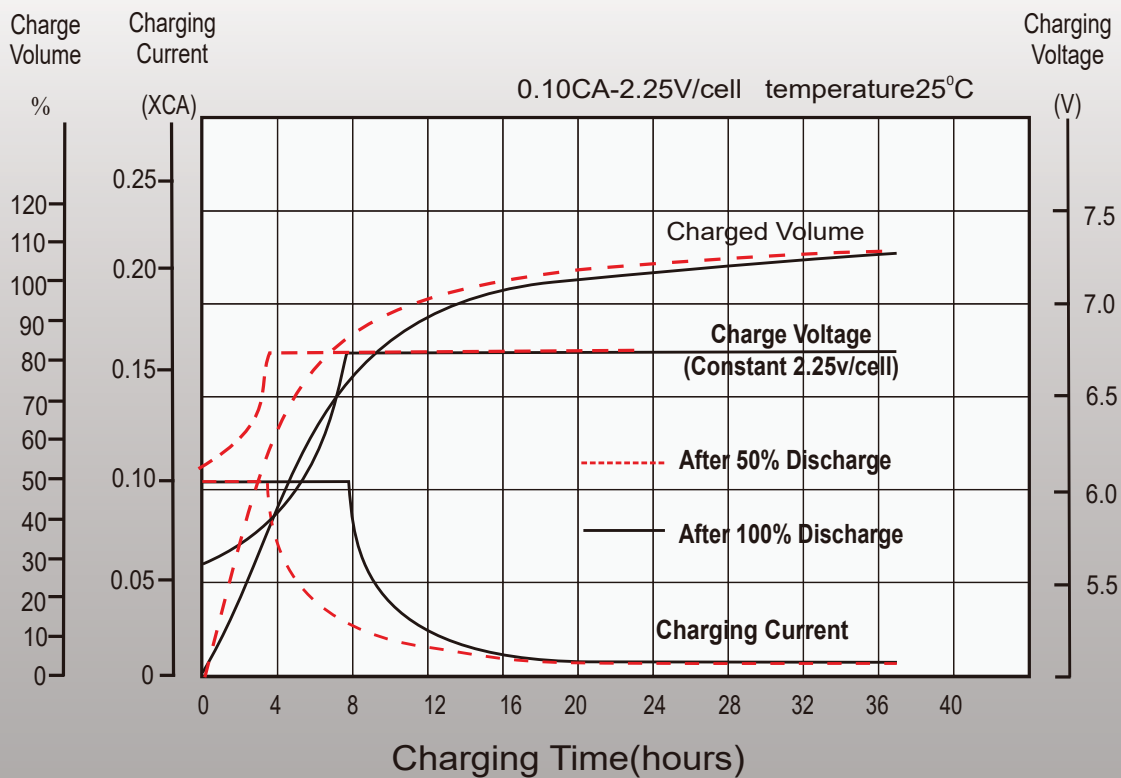
### Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	117.7	81.2	63.5	52.0	38.4	28.2	23.1	17.0	13.4	9.71	7.76	6.62	5.68	4.48	3.67	1.96
1.80V/cell	125.3	85.4	66.3	53.8	39.4	28.8	23.6	17.3	13.6	9.85	7.85	6.70	5.76	4.54	3.72	1.98
1.75V/cell	130.6	88.2	68.0	55.0	40.3	29.3	24.0	17.6	13.8	10.0	7.95	6.78	5.82	4.59	3.75	2.00
1.70V/cell	135.4	91.1	69.9	56.3	41.1	29.9	24.4	17.8	14.0	10.1	8.05	6.86	5.88	4.63	3.79	2.02
1.67V/cell	139.0	93.2	71.4	57.3	41.7	30.3	24.7	18.0	14.1	10.2	8.11	6.91	5.93	4.66	3.81	2.03
1.60V/cell	144.6	95.9	73.3	58.7	42.6	30.8	25.1	18.3	14.4	10.4	8.23	7.00	6.00	4.73	3.86	2.05

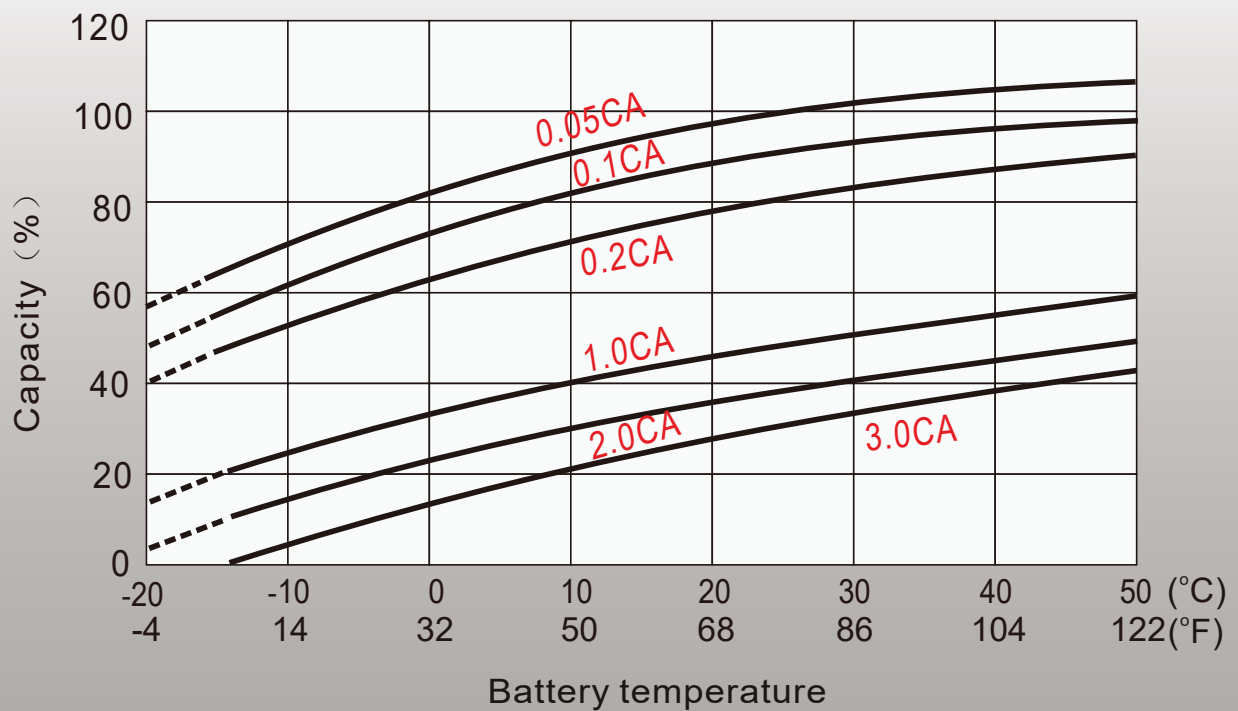
## Discharge Characteristics



# Float Charging Characteristics



# Temperature Effects in Relation to Battery Capacity



# Float Service Life



# ST12-20 (12V 20Ah)



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