

VRLA AGM Battery

BT-HSE-45-12 [12V45Ah]



General Features

- Designed floating charging service life: 12 years (25°C).
- AGM technology for efficient gas recombination of up to 99%.
- Sealed and maintenance free operation, safety valve for explosion proof.
- Low self-discharge characteristic, $\leq 3\%$ of capacity per month at 20°C (average).
- Wide operating temperature range with charge from -10°C~60°C, discharge from -20°C~60°C, storage from -20°C~60°C.
- Flat Plates in Lead Aluminum Calcium Tin alloy high energy, prevent corrosion.
- ABS flame retardant case, classified to UL94-V0 is available on request.

Applications

- DC power supply.
- UPS/ EPS power supply.
- Electrical devices & instruments.
- Security and fire alarm systems.
- Telecom stations and power stations.
- Medical equipment.
- Emergency lighting systems.

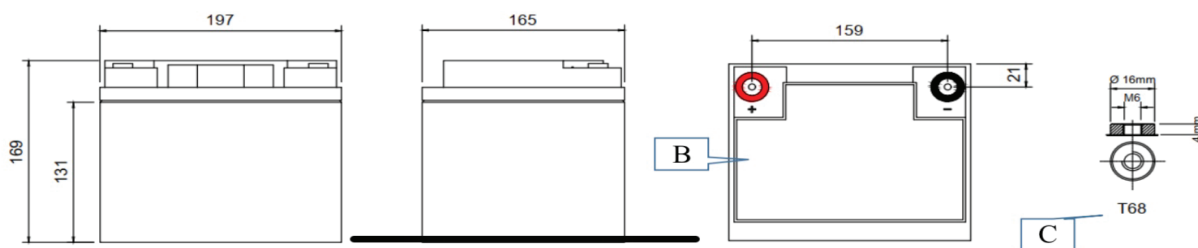
Battery Construction

Component	Battery Container	Safety valve	Terminal	Separator	Electrolyte
Raw material	ABS	Rubber	Copper alloy	Fiberglass	Sulfuric acid

Physical Specifications

Nominal Voltage/ No. of cell	Nominal Capacity (10HR)	Dimension ($\pm 3\text{mm}$)				Weight ($\pm 3\%$)	Internal Resistance (In full charge status)	Standard Terminals
		L	W	H	TH			
12V/6 cells	45Ah	197 mm	165 mm	169 mm	169 mm	Apx. 13.5 kg (29.8 lbs)	$\leq 8.0 \text{ m}\Omega$	T68 (standard)

Dimensions



Constant-Voltage Charge

Rated Capacity at 77°F(25°C)	
20 hour rate (2.34A to 10.8V)	46.8Ah
10 hour rate (4.50A to 10.8V)	45.0Ah
5 hour rate (7.60A to 10.5V)	38.0Ah
3 hour rate (11.0A to 10.5V)	33.0Ah
1 hour rate (27.0A to 10.2V)	27.0Ah
Capacity affected by Temperature	
40°C(104°F)	103%
25°C(77°F)	100%
0°C(32°F)	86%

Cycle Application

1. Limit initial current less than 13.5A
2. Charge until battery voltage (under charge) reaches 14.1V to 14.7V at 25°C(77°F)
3. Hold at 14.1V to 14.7V until current drop to under 0.2A for at least 3 hours
4. Temperature compensation coefficient of charging voltage is -30mV/°C

Standby Service

1. Hold battery across constant voltage source of 13.5 to 13.8 volts at 25°C(77°F) with current limit 13.5A continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charge status
2. Temperature compensation coefficient of charging voltage is -18mV/°C

Max. discharge current (5s): 470A

Short Circuit Current: 1100A

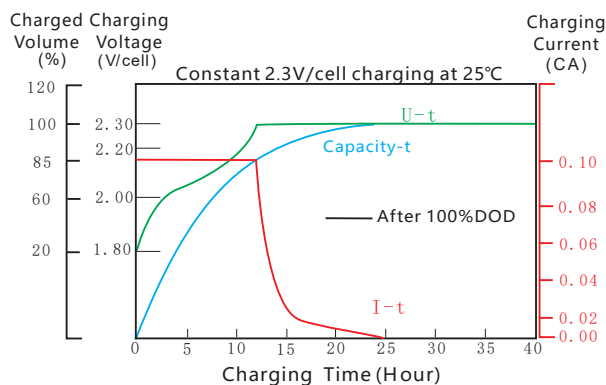
NOTE: All data shall be changed without notice. Saite reserves the right to explain and update the information contained hereinto. The battery should be charged within 6 months of storage. Otherwise, permanent loss of capacity might occur as a result of sulfation

Battery Discharge Table

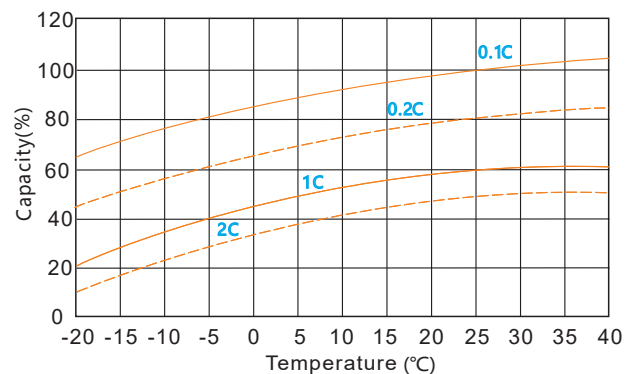
End Volts/ Cell	Minute (M)			Hour (H)							
	10	15	30	1	1.5	2	3	5	8	10	20
Constant Current Discharge Data Sheet (@25°C) Unit: A											
1.60V	107	84.8	47.4	28.1	22.5	19.1	11.7	8.14	5.58	4.69	2.44
1.65V	102	81.1	45.3	27.6	22.1	18.6	11.5	7.96	5.48	4.64	2.42
1.70V	97.6	77.4	43.3	27.0	21.6	18.2	11.3	7.78	5.38	4.60	2.39
1.75V	92.9	73.6	41.2	26.5	21.2	17.7	11.0	7.60	5.27	4.55	2.37
1.80V	88.2	69.9	39.1	25.9	20.7	17.2	10.8	7.42	5.17	4.50	2.34
Constant Power Discharge Data Sheet (@25°C) Unit: W											
1.60V	199	165	102	60.5	44.3	32.2	24.7	16.0	12.1	9.38	5.03
1.65V	190	158	97.5	59.1	43.3	32.4	24.1	15.6	11.9	9.29	4.98
1.70V	181	150	92.9	57.7	42.3	31.6	23.6	15.2	11.7	9.19	4.93
1.75V	173	143	88.4	56.3	41.2	30.8	23.0	14.8	11.5	9.10	4.87
1.80V	164	136	83.8	54.8	40.2	30.0	22.5	14.5	11.3	9.00	4.82

Performance Characteristics

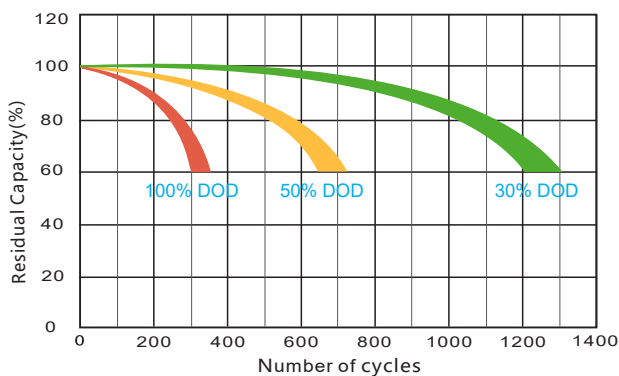
Charge Characteristic (25°C/77°F)



Capacity Curve at Different Temperature



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristic

