

## VRLA AGM Battery

BT-12M33AC [12V33Ah]



### General Features

- Designed floating charging service life: 12 years (25°C).
- Sealed and maintenance free operation.
- Safety valve installation for explosion proof.
- Low self-discharge characteristic.
- Wide operating temperature range from 0°C~40°C.
- Lead Aluminum calcium Tin alloy high energy, prevent corrosion.

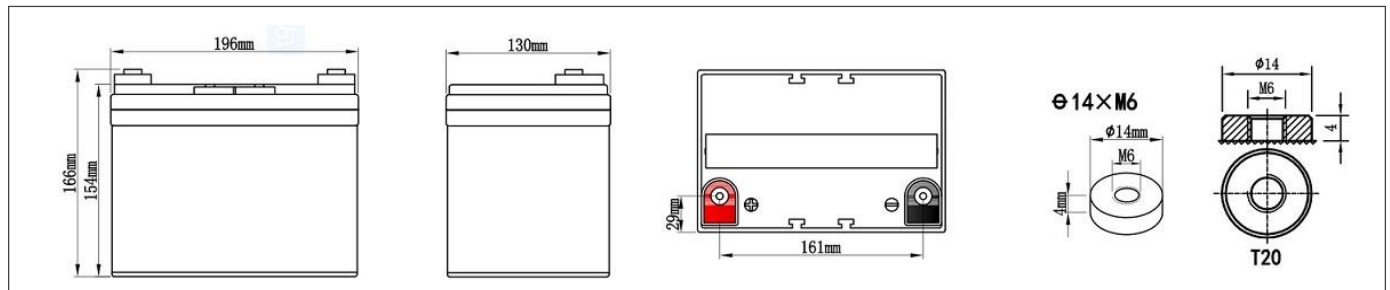
### Applications

- 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.

### Physical Specifications

Nominal Voltage	Nominal Capacity (20HR)	Dimension				Weight ±3%	Internal Resistance (In full charge status)	Standard Terminals
		L	W	H	TH			
12V	33Ah	196±2mm	130±2mm	154±2mm	178±2mm	Approx 9.80kg (21.61lbs)	≤ 9.5 mΩ	T20 (standard)

### Dimensions



### Constant-Voltage Charge

Rated Capacity	
20 hour rate (1.69A to 10.8V)	33.03Ah
10 hour rate (3.30A to 10.8V)	31.50Ah
5 hour rate (5.58A to 10.5V)	27.55Ah
3 hour rate (8.54A to 10.5V)	17.50Ah
1 hour rate (19.9A to 10.2V)	11.55Ah
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 8.25A
2. Charge until battery voltage (under charge) reaches 14.1V to 14.4V at 25°C(77°F)
3. Hold at 14.1V to 14.4V until current drop to under 0.198A 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 13.6 to 13.8 volts with current limit 8.25A 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

**NOTE:** The battery should be charged within 6 months of storage. Otherwise, permanent loss of capacity might occur as a result of sulfation

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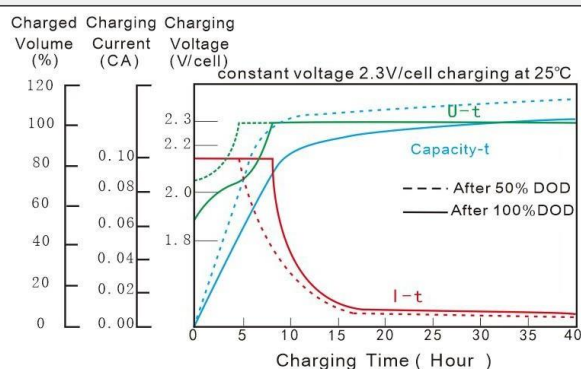
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## Battery Discharge Table

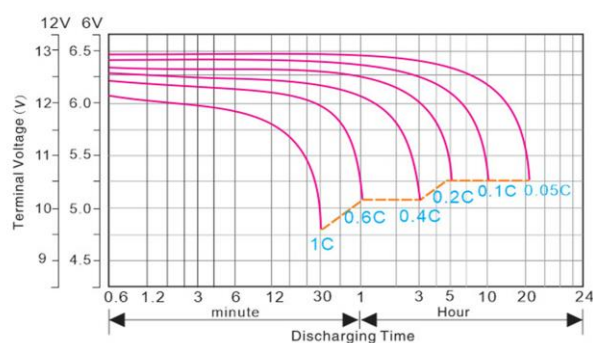
End Volts/Cell	Minute (M)					Hour (H)							
	5	10	15	30	45	1	1.5	2	3	5	8	10	20
<b>Constant Current Discharge Data Sheet (Amperes at 25°C) Unit: A</b>													
1.70	122	80.0	62.7	32.0	23.2	19.9	13.8	11.6	8.81	5.69	3.81	3.35	1.74
1.75	121	79.2	62.0	31.7	23.1	19.8	13.3	11.2	8.54	5.58	3.77	3.32	1.72
1.80	120	78.3	61.4	31.5	23.0	19.7	13.1	10.8	8.26	5.47	3.73	3.30	1.69
<b>Constant Power Discharge Data Sheet (Watt at 25°C) Unit: W</b>													
1.70	221	159	129	72.8	53.0	40.3	31.0	23.3	16.6	11.0	7.72	6.24	3.36
1.75	212	154	125	71.3	51.8	39.7	30.5	23.0	16.2	10.8	7.65	6.15	3.31
1.80	201	148	121	69.2	50.5	39.0	30.1	22.6	16.0	10.7	7.57	6.05	3.27

## Performance Characteristics

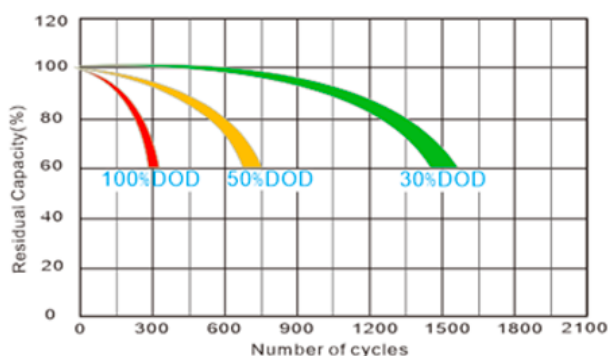
### Charge Characteristic (25°C/77°F)



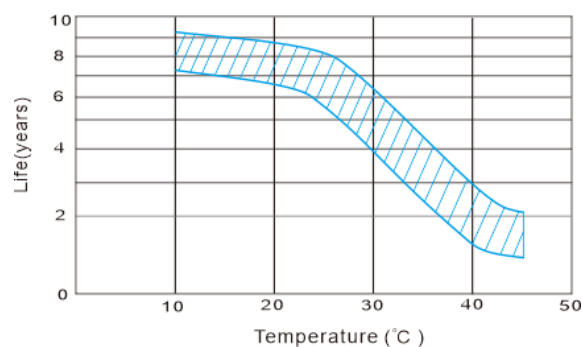
### Discharge Characteristic (25°C/77°F)



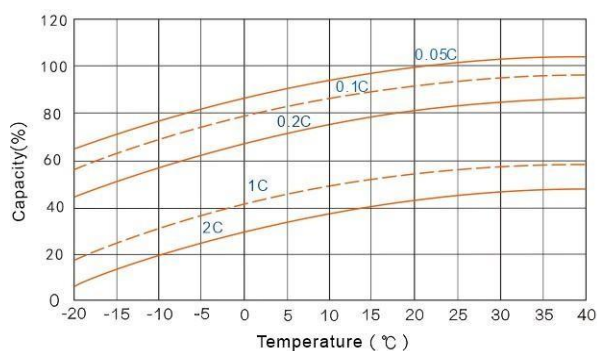
### Cycle Life in Relation to Depth of Discharge



### Temperature vs. Float Life



### Capacity Curve at Different Temperature



### Self Discharge Characteristic

