

VRLA AGM Battery

ESR5-12 [12V5.0Ah]



General Features

- Designed floating charging service life: 8 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

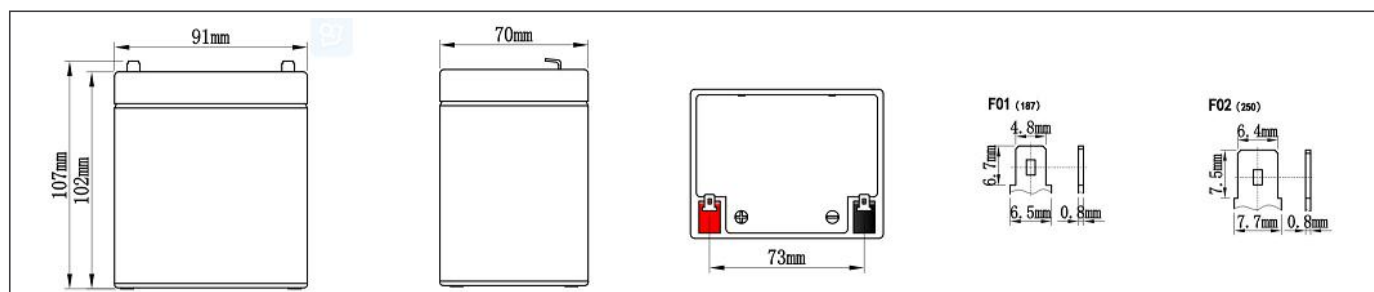
Application

- DC power supply
- Medical equipments
- UPS/EPS power supply
- Emergency lighting systems
- Alarm and security systems

Physical Specifications

Nominal Voltage	Nominal Capacity (20HR)	Dimension				Weight ±2%	Internal Resistance (In full charge status)	Standard Terminals
		L	W	H	TH			
12V	5.0AH	91±2mm	70±2mm	102±2mm	107±2mm	Approx1.60kg (3.53lbs)	≈24 mΩ	F01/F02 (standard)

Dimensions



Constant-Voltage Charge

Rated Capacity		Cycle Application	
20 hour rate (0.25A)	5.26AH	1. Limit initial current less than 1.25A.	
10 hour rate (0.50A)	4.95AH	2. Charge until battery voltage (under charge) reaches 14.1V to 14.4V at 25°C(77°F).	
5 hour rate (0.85A)	4.30AH	3. Hold at 14.1V to 14.4V until current drop to under 0.03A for at least 3 hours.	
27 minute rate (5.0A)	2.30AH	4. Temperature compensation coefficient of charging voltage is -30mV/°C.	
7 minute rate (15.0A)	1.78AH		
Capacity affected by Temperature		Standby Service	
40°C(104°F)	103%	1. Hold battery across constant voltage source of 13.6 to 13.8 volts with current limit 1.25A continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charge status.	
25°C(77°F)	100%	2. Temperature compensation coefficient of charging voltage is -18mV/°C.	
0°C(32°F)	86%		

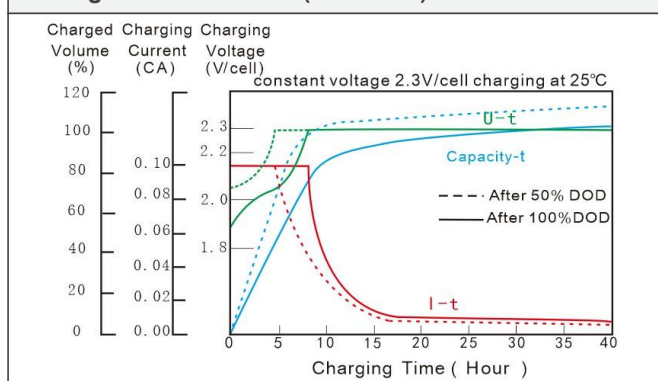
NOTE : The battery should be charged within 6 months of storage, Otherwise, permanent loss of capacity might occur as a result of sulfation

Battery Discharge Table

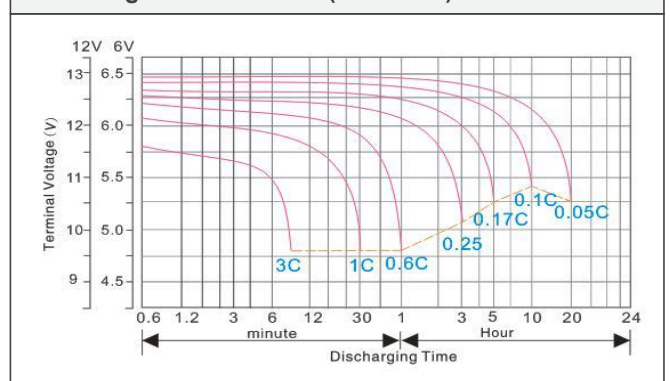
End Voltage (V)	Minute (M)				Hour (H)							
	10	15	30	45	1	1.5	2	3	5	8	10	20
Constant Current Discharge Data Sheet (@25°C) Unit: A												
9.6V	14.1	11.3	5.78	4.22	3.11	2.54	1.94	1.45	0.914	0.607	0.510	0.270
9.9V	13.5	10.7	5.50	4.08	3.04	2.47	1.90	1.42	0.892	0.595	0.505	0.268
10.2V	12.8	10.2	5.24	3.94	2.96	2.41	1.85	1.38	0.870	0.583	0.500	0.265
10.5V	12.6	9.99	5.09	3.85	2.95	2.38	1.80	1.35	0.860	0.577	0.495	0.263
10.8V	12.3	9.71	4.90	3.68	2.92	2.32	1.71	1.30	0.843	0.572	0.490	0.260
Constant Power Discharge Data Sheet (@25°C) Unit: W												
9.6V	167	135	76.2	54.0	40.2	30.9	23.2	16.6	10.9	7.62	6.05	3.26
9.9V	159	128	72.5	52.1	39.3	30.1	22.7	16.2	10.7	7.47	5.99	3.22
10.2V	151	122	69.1	50.4	38.3	29.4	22.1	15.8	10.4	7.32	5.93	3.19
10.5V	146	119	67.7	49.2	37.7	29.0	21.8	15.4	10.3	7.27	5.83	3.15
10.8V	141	115	65.7	48.0	37.1	28.5	21.5	15.2	10.2	7.19	5.74	3.10

Performance Characteristics

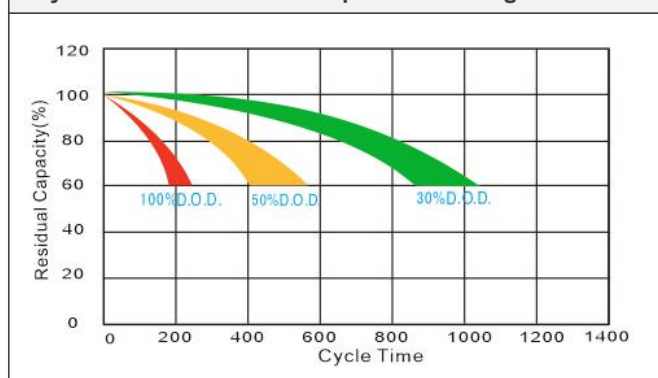
Charge Characteristics (25°C/77°F)



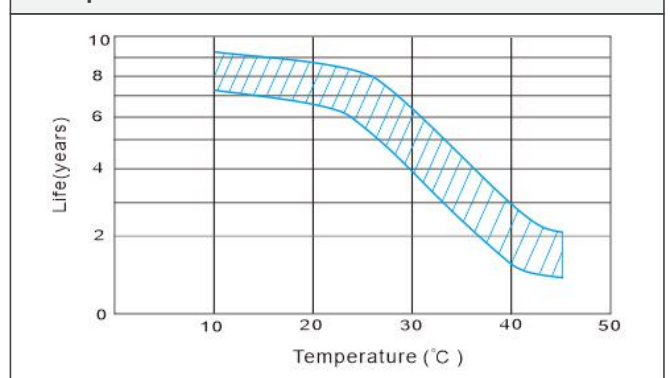
Discharge Characteristic (25°C/77°F)



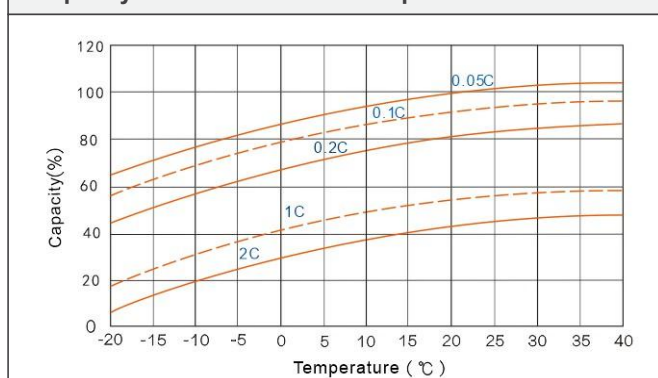
Cycle Life in Relation to Depth of Discharge



Temperature vs Float Life



Capacity Curve At Different Temperature



Self Discharge Characteristics

