

VRLA AGM Battery

4RP4VA[4V4.5Ah]



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

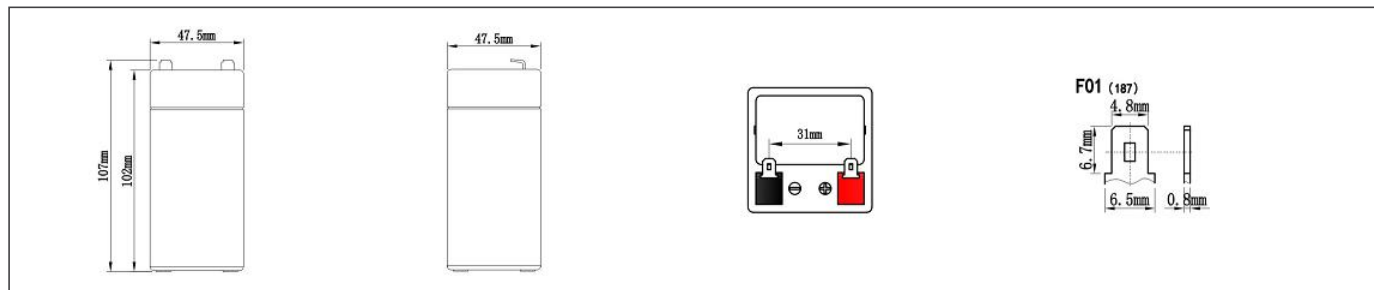
Application

- 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			
4V	4.5AH	47.5±1mm	47.5±1mm	102±2mm	107±2mm	Approx 0.49kg (1.0802bs)	≈12 mΩ	F01 (standard)

Dimensions



Constant-Voltage Charge

Rated Capacity	
20 hour rate (0.225A)	4.56AH
10 hour rate (0.45A)	4.28AH
5 hour rate (0.765A)	3.65AH
27 minute rate (4.5A)	2.25AH
7 minute rate (13.5A)	1.58AH
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 1.125A.
2. Charge until battery voltage (under charge) reaches 4.70V to 4.80V at 25°C(77°F).
3. Hold at 4.70V to 4.80V until current drop to under 0.027A for at least 3 hours.
4. Temperature compensation coefficient of charging voltage is -10mV/°C.
Standby Service
1. Hold battery across constant voltage source of 4.54 to 4.60 volts with current limit 1.125A 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 -6mV/°C

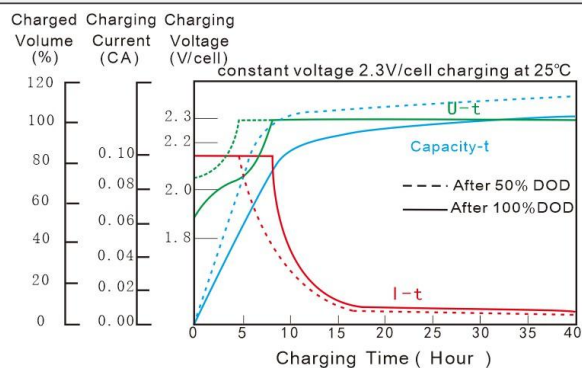
NOTE : The battery should be charged within 6 months of storage, Otherwise, permanent loss of capacity might occur as a result of sulfation

Battery Discharge Table

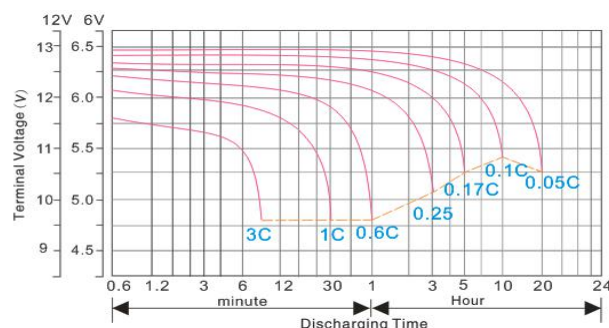
End Voltage (V)	Minute (M)				Hour (H)							
	10	15	30	45	1	1.5	2	3	5	8	10	20
Constant Current Discharge Data Sheet (@25°C) Unit: A												
3.2V	12.2	9.69	5.01	3.65	2.70	2.20	1.68	1.26	0.792	0.525	0.446	0.235
3.3V	11.7	9.23	4.77	3.53	2.63	2.14	1.64	1.23	0.773	0.515	0.441	0.232
3.4V	11.1	8.79	4.54	3.41	2.57	2.09	1.60	1.20	0.754	0.505	0.437	0.230
3.5V	10.9	8.60	4.40	3.33	2.55	2.05	1.54	1.16	0.742	0.500	0.433	0.228
3.6V	10.6	8.35	4.24	3.19	2.53	2.00	1.47	1.12	0.730	0.495	0.428	0.225
Constant Power Discharge Data Sheet (@25°C) Unit: W												
3.2V	48.1	38.6	22.0	15.6	11.6	8.91	6.70	4.78	3.15	2.20	1.74	0.938
3.3V	45.8	36.8	20.9	15.0	11.3	8.69	6.54	4.66	3.08	2.15	1.73	0.929
3.4V	43.6	35.0	19.9	14.5	11.1	8.48	6.38	4.55	3.00	2.11	1.71	0.920
3.5V	42.1	34.0	19.5	14.2	10.9	8.35	6.29	4.45	2.97	2.09	1.69	0.910
3.6V	40.6	32.9	19.0	13.8	10.7	8.23	6.20	4.37	2.93	2.07	1.65	0.880

Performance Characteristics

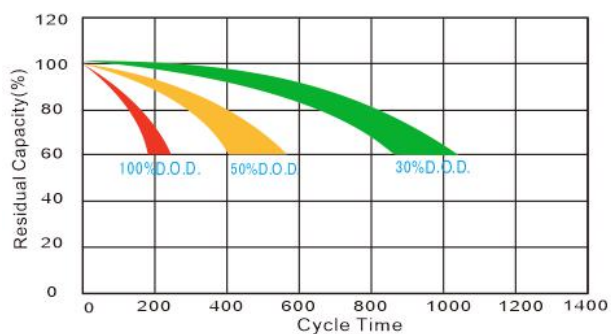
Charge Characteristics (25°C/77°F)



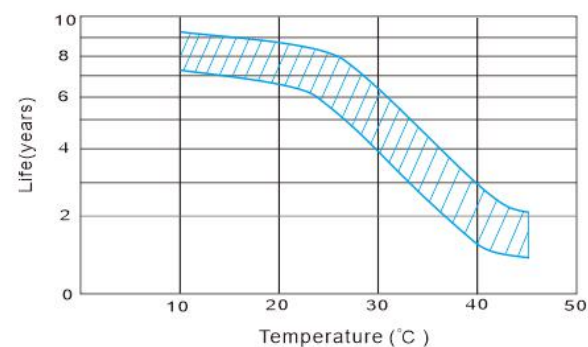
Discharge Characteristic (25°C/77°F)



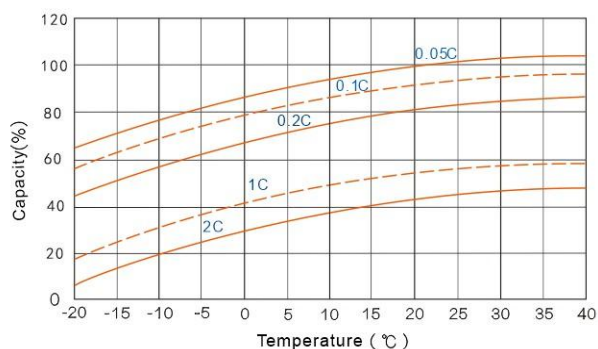
Cycle Life in Relation to Depth of Discharge



Temperature vs Float Life



Capacity Curve At Different Temperature



Self Discharge Characteristics

