

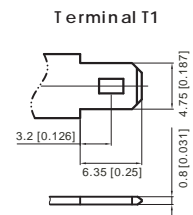
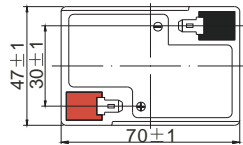
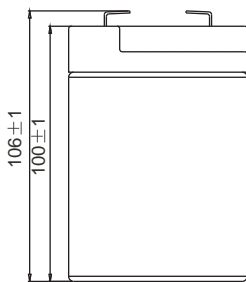
NP 6-4,5 is a general purpose VRLA battery with 5 years floating design life that meets with IEC 6 & JIS standard. With up dated AGM valve regulated technology and high purity raw materials, the battery has reliable standby service life. It is suitable for UPS, medical equipment, emergency light and security systems applications.

**6V - 4,5Ah**



Physical Characteristics		Technical Characteristics	
Nominal Voltage	6V	Internal Resistance	Fully charged battery (25C) 25mΩ
Nominal Capacity (20HR)	4,5Ah @20hr rate to 1,75V per cell @25C	Recommended Charging Current at 25C	1,35A
Dimension LxWxH	70x47x106 +/-2mm	Float charging Voltage	6,75 to 6,90 VDC/unit Average at 25C
Weight	Approx 0,81kg	Equalization and Cycle Service	7,2 to 7,5 VDC/unit Average at 25C
Standard Terminal	T1	Max discharge current	67,5Ah (5sec)

### Dimensions



Container Material : A.B.S. UL94-HB

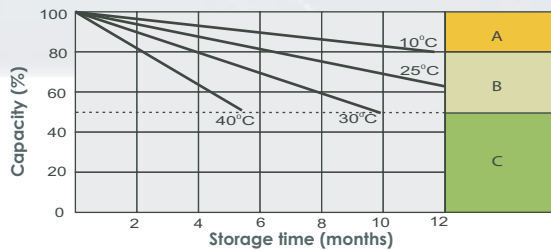
### Constant Current & Power Discharge Characteristics: A (25C) / W/cell (25C)

Final Voltage	Time	Time															
		5	10	15	20	30	45	1hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr	
1.85V/cell	A	8.64	6.02	4.97	4.31	3.46	2.66	2.17	1.33	1.01	0.831	0.706	0.611	0.486	0.404	0.223	
1.80V/cell	A	10.6	7.19	5.76	4.87	3.83	2.90	2.34	1.41	1.06	0.874	0.736	0.638	0.504	0.419	0.225	
1.75V/cell	A	12.6	8.13	6.35	5.31	4.09	3.08	2.46	1.47	1.10	0.901	0.756	0.654	0.518	0.427	0.227	
1.70V/cell	A	14.3	8.96	6.88	5.70	4.29	3.20	2.57	1.53	1.14	0.924	0.775	0.670	0.525	0.434	0.231	
1.65V/cell	A	15.7	9.64	7.27	5.98	4.47	3.32	2.67	1.58	1.17	0.943	0.792	0.683	0.534	0.440	0.234	
1.60V/cell	A	16.5	10.0	7.58	6.17	4.60	3.40	2.73	1.63	1.19	0.966	0.808	0.696	0.545	0.447	0.236	
1.85V/cell	W	16.3	11.5	9.55	8.35	6.74	5.21	4.28	2.63	2.01	1.66	1.41	1.23	0.977	0.815	0.450	
1.80V/cell	W	19.8	13.6	11.0	9.37	7.41	5.65	4.58	2.78	2.10	1.73	1.46	1.27	1.01	0.838	0.452	
1.75V/cell	W	23.2	15.2	12.0	10.1	7.86	5.96	4.80	2.88	2.16	1.78	1.49	1.30	1.03	0.849	0.453	
1.70V/cell	W	26.0	16.6	12.9	10.8	8.20	6.16	4.97	2.98	2.22	1.81	1.52	1.32	1.04	0.858	0.459	
1.65V/cell	W	28.3	17.6	13.4	11.2	8.48	6.36	5.15	3.05	2.27	1.84	1.55	1.34	1.05	0.866	0.463	
1.60V/cell	W	29.2	18.1	13.9	11.4	8.62	6.44	5.22	3.13	2.31	1.87	1.57	1.36	1.07	0.876	0.464	

### Capacity factors with different temperature

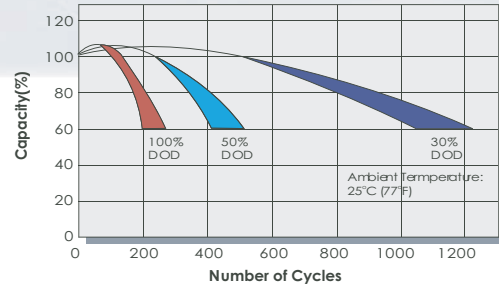
Capacity affected by temp	-15C	0C	25C	40C
20hr	65%	85%	100%	102%

### Storage characteristics



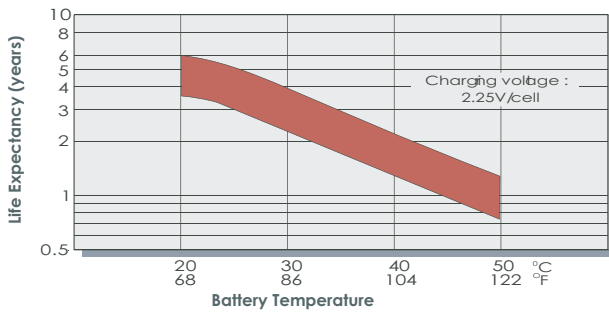
- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)  
Supplementary charge required before use. Optional charging way as below:  
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
- B** 1. Charged for above 20hours at limited current 0.25CA and constant voltage 2.45V/cell.  
2. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.

### Cycle Life in Relation to depth of discharge

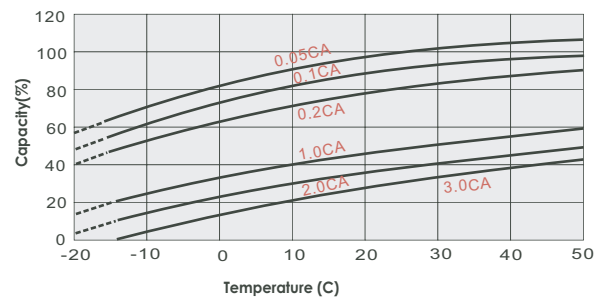


Testing condition  
Discharging: Current 0.17C (FV 1.7V/cell)  
Charging: Current 0.25C max, voltage 2.45V/cell  
Charging volume: 125% of discharged capacity

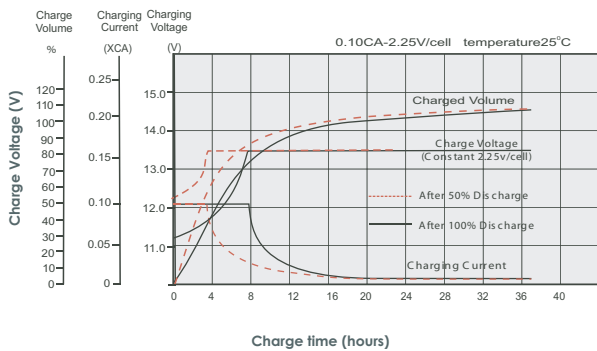
### Effect of temperature on long term float life



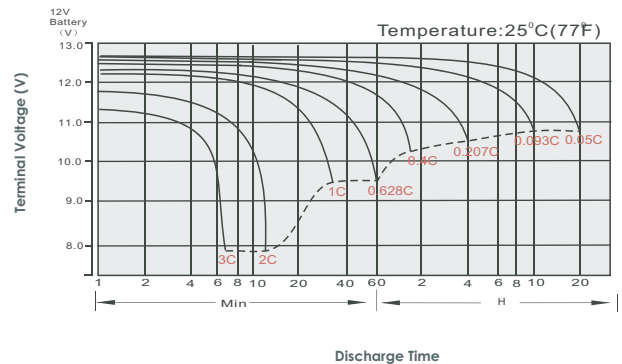
### Temperature effects in relation to battery capacity



### Float Charging Characteristics



### Discharge characteristics curve



### Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1,75V	1,70V	1,60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25C  
Charging Method:

Constant Voltage	-0.2Cx2h+2.4~2.45V/Cellx24h, Max.Current 0.3CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h

### Maintenance & Cautions

#### Float Service:

- \* Every month, recommend inspection every battery voltage
- \* Every three months, recommend equalization charge for one time.

#### Equalization charge method:

Discharge: 100% rate capacity discharge

Charge: Max. current 0.3CA, constant voltage 2,4-2,45V/Cell charge 24h

\* Effect of temperature on float charge voltage: -3mV/C/Cell

\* Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.