



● Deep Cycle Series Battery

NPD series VRLA batteries are superior deep cycle design with thick plates, high-density active materials And Slightly stronger electrolyte, Which can withstand repeated deep cyclic applications.
 Deep cycle series Batteries are the special design batteries with 5 years floating design life at 25°C. Meet with IEC, BS, JIS and Eurobat standard.



● Application

- *Emergency Power System
- *Communication equipment
- *Telecommunication systems
- *Uninterruptible power supplies
- *Electric bicycle and wheelchairs, etc.
- *Power tools
- *Golf cars and buggies
- *Marine equipment
- *Solar and wind power system

● General Features

- *Safety Sealing
- *Non-spillable construction
- *High power density
- *Excellent recovery from Deep discharge
- *Thick plates and high active materials
- *Longer Life and low self-discharge design

● Construction

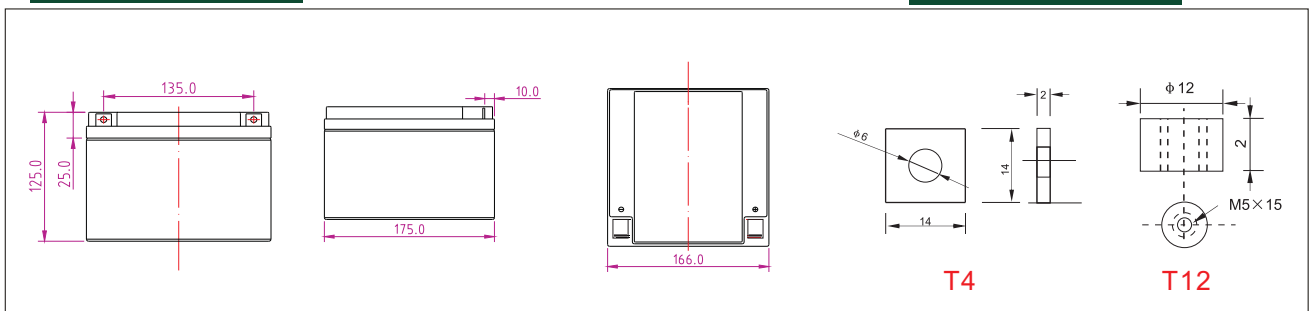
- *PositiveLead dioxide
- *ElectrolyteSulfuric acid
- *SeparatorFiber glass
- *ContainerABS(UL94-HB), Flammability Resistance of UL94-V2 can be available upon request
- *NegativeLead
- *Safety ValveEPDR
- *TerminalCopper

● Specification

Battery Model	Nominal Voltage 12V			
	Rated capacity(20 Hour rate) 28Ah			
Dimensions	Length	Width	Height	Total Height
	175mm(6.89 inches)	166mm (6.54 inches)	125mm(4.92 inches)	125mm(4.92 inches)
Approx Weight	8.9kg(19.62lbs)±3%			
Capacity 25°C (77°F)	20hour(1.4A,10.8V)	10 hour (2.58A,10.5V)	5 Hour (4.76A,10.2V)	1 Hour (16.8A,9.6V)
	28.0AH	25.8Ah	23.8Ah	16.8Ah
Max.discharge current	280A(5 Sec.)			
Internal Resistance	Full charged at 25 °C: Approx 9mΩ			
Capacity affected by Temp. (20 HR)	40°C (104 °F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Self Discharge at 25°C (77°F)	After 3 months storage		After 6 months storage	After 12 months storage
	91%		82%	64%
Charge method 25°C (77°F)	Cycle Use		Float Use	
	14.4-14.7V (Initial charging current less than 11.2A)		13.50-13.80V	

● Outer dimensions (mm)

● Terminal Type (mm)

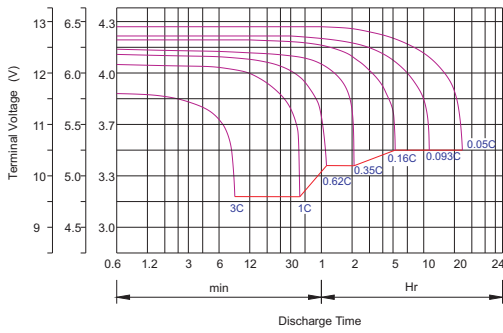


Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)

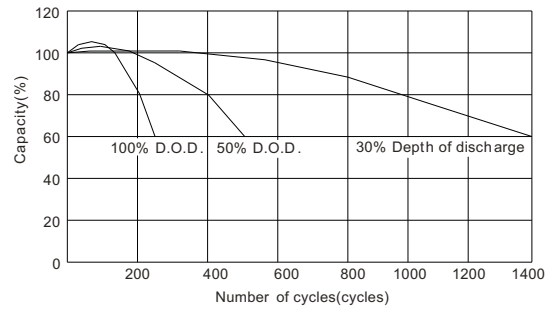
Time	5min	10min	15min	30min	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr
9.60V	A	100.80	66.08	49.00	32.20	16.80	9.80	7.21	5.79	4.91	3.24	1.45
	W	1188.80	746.70	564.70	341.80	193.70	113.40	83.40	67.00	56.80	37.50	16.80
10.20V	A	92.40	63.23	45.03	30.57	15.77	9.40	7.00	5.60	4.82	3.19	1.41
	W	1118.80	707.00	530.80	339.50	182.00	108.90	81.10	64.90	55.80	36.90	16.30
10.50V	A	84.12	59.08	42.00	29.63	15.26	9.22	6.88	5.32	4.80	3.15	1.40
	W	1080.30	686.00	507.50	336.00	176.60	106.80	79.70	61.60	55.40	36.50	16.20
10.80V	A	80.84	56.47	39.20	28.82	14.75	8.98	6.77	5.23	4.55	3.07	1.37
	W	947.30	665.00	488.80	334.80	171.50	104.50	78.80	60.80	53.00	35.00	15.90
11.10V	A	74.76	53.20	36.40	26.40	14.23	8.75	6.42	5.13	4.35	2.99	1.33
	W	915.80	642.80	465.50	315.50	169.20	103.80	76.40	60.70	51.80	33.80	15.80



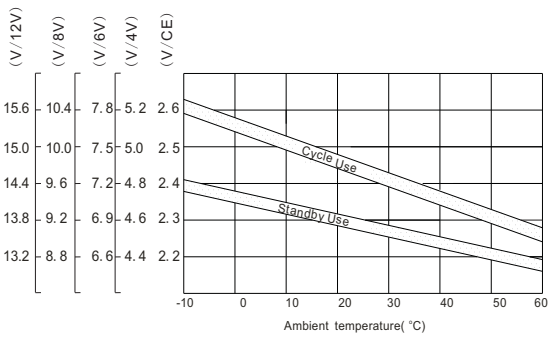
Discharge characteristic Curve



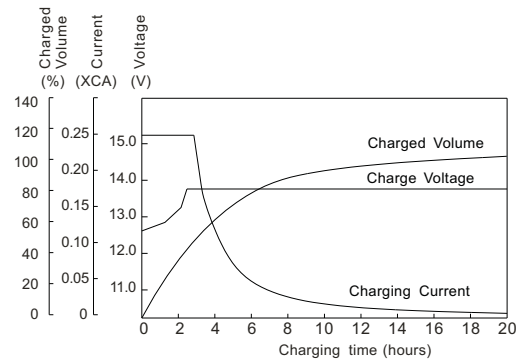
Cycle service life in relation to depth of discharge



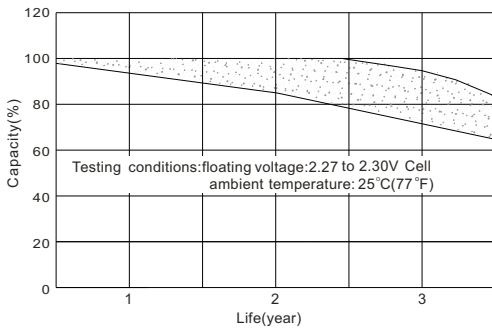
Relationship between charging voltage and temperature



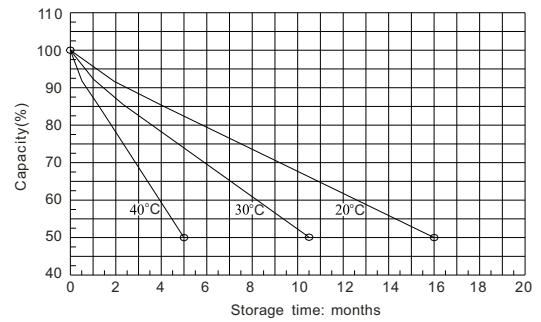
Constant voltage charging characteristic (0.25CA, at 25°C)



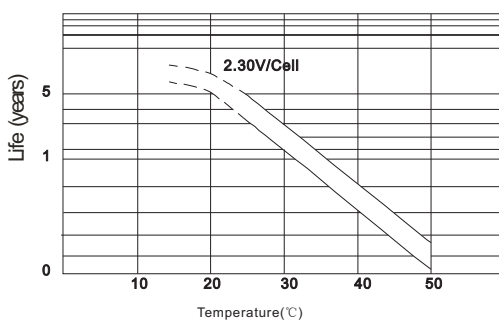
Life characteristics of standby use



Self-discharge characteristic



Temperature effects on float life



Charge characteristic Curve for standby use

