

## 12V - 2,3Ah

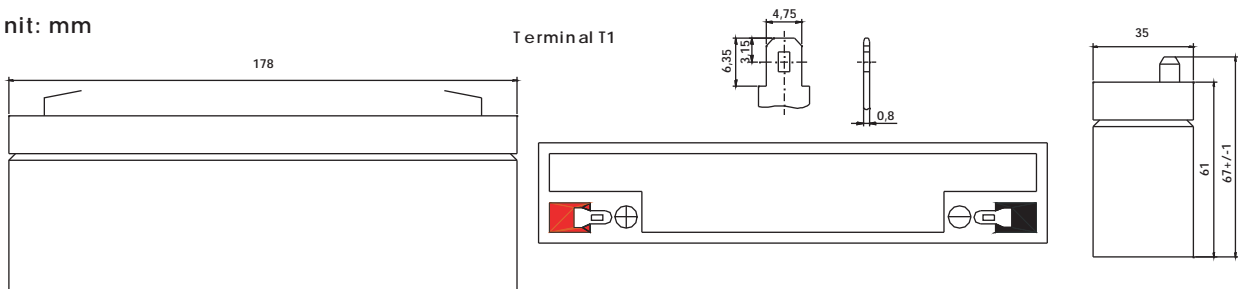
NP 12V 2.3 Ah is a general purpose VRLA battery with 5 years floating design life, meet with IEC, JIS standard. With heavy duty grid, thickness plates, special additives, it has long and reliable standby service life.



Physical Characteristics		Technical Characteristics	
Nominal Voltage	12V	Internal Resistance	Fully charged battery (25C) 50mΩ
Nominal Capacity (20HR)	2.3Ah @20hr rate to 1,75V per cell @25C	Recommended Charging Current at 20C	0,69A
Dimension LxWxH	178x35x67 +/-1mm	Float charging Voltage	13,7 to 13,9 VDC/unit Average at 25C
Weight	Approx 0,97kg	Equalization and Cycle Service	14,6 to 14,8 VDC/unit Average at 25C
Standard Terminal	T1	Max Discharge Current	23A (5sec)

### Dimensions

Unit: mm



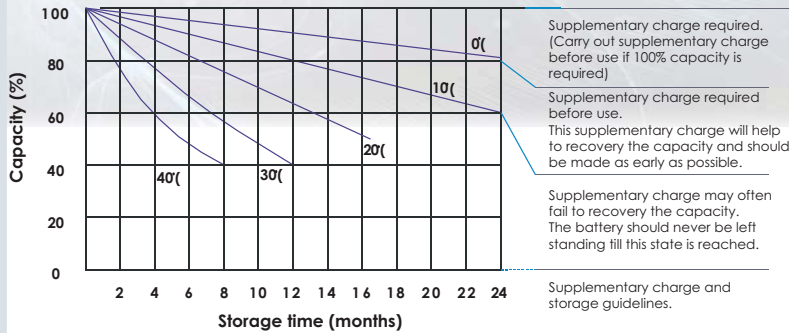
### Constant Current & Power Discharge Characteristics: A (25C) / W (25C)

Final Voltage	Time	5	10	15	30	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr
		<b>1.60V</b>	<b>A</b>	9.352	6.132	4.806	2.698	1.603	0.923	0.627	0.502	0.417	0.266
<b>25C</b>	<b>W</b>	98.39	65.22	51.45	30.88	18.61	10.77	7.334	5.941	4.936	3.180	2.754	1.546
<b>1.65V</b>	<b>A</b>	9.014	5.979	4.652	2.663	1.559	0.905	0.616	0.495	0.410	0.265	0.228	0.124
<b>25C</b>	<b>W</b>	95.82	63.86	50.71	30.56	18.34	10.68	7.320	5.927	4.911	3.168	2.728	1.491
<b>1.7V</b>	<b>A</b>	8.485	5.682	4.523	2.623	1.545	0.895	0.610	0.490	0.405	0.262	0.224	0.122
<b>25C</b>	<b>W</b>	91.15	61.33	50.05	30.30	18.21	10.61	7.292	5.878	4.863	3.144	2.703	1.464
<b>1.75V</b>	<b>A</b>	7.627	5.314	4.266	2.550	1.514	0.883	0.605	0.486	0.401	0.260	0.223	0.118
<b>25C</b>	<b>W</b>	83.19	58.81	47.44	29.68	17.96	10.53	7.262	5.825	4.805	3.117	2.674	1.423
<b>1.8V</b>	<b>A</b>	6.834	4.955	4.025	2.466	1.487	0.876	0.598	0.483	0.396	0.259	0.219	0.111
<b>25C</b>	<b>W</b>	75.05	55.01	44.82	28.98	17.67	10.44	7.177	5.803	4.755	3.104	2.634	1.340
<b>1.85V</b>	<b>A</b>	5.979	4.543	3.713	2.372	1.447	0.841	0.586	0.479	0.392	0.257	0.216	0.110
<b>25C</b>	<b>W</b>	66.19	51.22	42.21	28.18	17.34	10.08	7.037	5.745	4.710	3.082	2.595	1.319

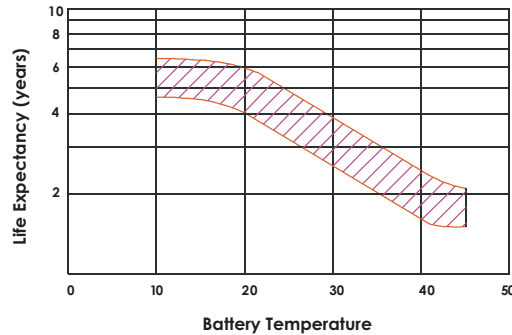
### Capacity factors with different temperature

BATTERY TYPE		-20C	-10C	0C	5C	10C	20C	25C	30C	40C	45C
GEL BATTERY	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM BATTERY	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

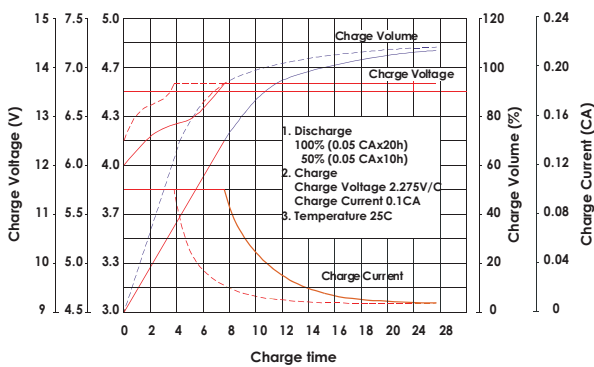
### Storage characteristic



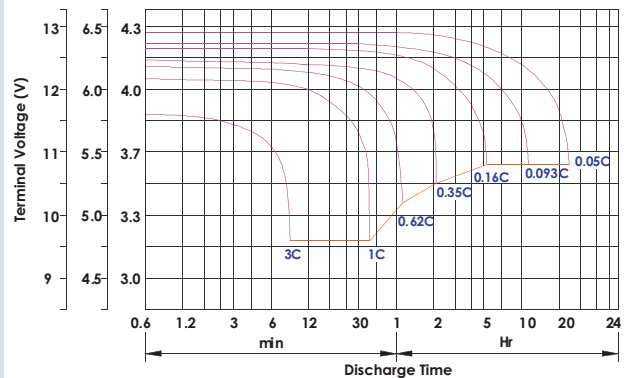
### Effect of temperature on long term float life



### Charge characteristic Curve for standby use



### Discharge characteristic 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.