# FirstPower Technology Co., Ltd.

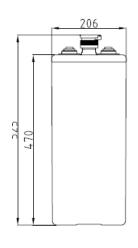
**Specifications** 

Nomii	nal V	/oltage	2 V						
~ .	10	HR(1.80V)	420 Ah						
Capacity (20°C)	31	HR(1.75V)	321Ah						
(200)	1]	HR(1.60V)	235Ah						
Battery		Dry	$24.5$ kg ( $54.0$ lbs) $\pm 5$ %						
Weigh		Wet	33kg (72.8lbs)±5%						
Acid Weig	ht (c	l=1.24kg/l)	Approx.8.5kg (18.7lbs)						
Terminal	type	/material	T10 / Copper						
		istance ed, 25°C)	Approx. $0.80$ mΩ						
Self-dischar	rge	1 month	Remaining Capacity: 86%(20°C)						
	al op pera	erating ture	20°C±5°C(68°F±9°F)						
Operating	9	Discharge	-15℃~50℃(5°F~122°F)						
temperatu	re	Charge	10°C∼45°C(50°F∼113°F)						
range		Storage	10°C∼30°C(50°F∼86°F)						
Initial charging		Constant current	Charge the battery at $0.05 C_{10}$ for 72h.						
		Constant voltage	Charge the battery at 0.1 C <sub>10</sub> to 2.35v/cell; then Charge the battery with 2.35v/cell until the whole charge time up to 100h.						
Mark of Fully charged		Constant current	The battery voltage and density of electrolyte remain stable over 2h at the end of charging, and strong bubbles generated within the electrolyte						
		Constant voltage	The charging current and density of electrolyte kept constant for more than 3h at the end of the charge; and the charging current is about 0.002~0.005 C10 amp.						
Supplem	enta	ry charge	Charge the battery at $0.05 C_{10}$ to fully charged.						
Equaliz	ing (	charging	Charge the battery with 2.40v/cell for 48h.						
Battery operation	Float charging		Charge the battery with 2.23V (25°C); Equalizing charging the battery when the abnormal occurs						
	Charge&		Equalizing charging the battery						
, ·	discharge Backup		after discharged and per 3months Supplementary charge the battery per 3 or 6 months.						
Maximum	char	ging current	105A(0.25C <sub>10</sub> )						
		ge current	2000A(5 sec.)						
		ycle life	1600@80% DOD (30°C)						
		ating life	20 years(20°C)						
			- 5 7						

#### CHARACTERISTICS:

- ◆ Tubular Positive Plate;
- ◆ Flooded Battery;
- ◆ Porous Rubber and Porous PVC Separator
- ◆ Transparent Container.

#### **Dimensions**









## **Constant Current Discharge Characteristics (A, 25°C)**

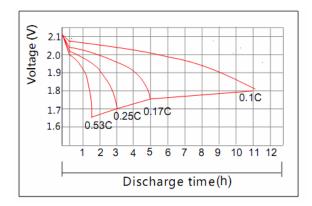
F.V/TI	ME 3	30min	60min	2h	3h	4h	5h	6h	8h	10h	20h	24h	48h	120h
1.70	I	328	227	139	108	86.5	76.0	64.7	49.6	42.4	22.9	20.0		
1.75V	I	319	221	137	107	86.1	75.6	64.3	49.1	42.4	22.9	19.9		
1.80	I	307	214	133	104	83.6	73.5	62.2	47.5	42.0	22.7	19.7	10.1	
1.85V	I	290	202	125	97.4	78.5	69.3	58.4	44.5	39.9	21.6	18.8	10.1	4.20

#### Constant Power Discharge Characteristics (Watt, 25°C)

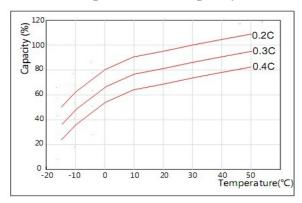
	F.V/TIME	30min	60min	2h	3h	4h	5h	6h	8h	10h	20h	24h	48h	120h
	1.70V	613	428	267	212	170	150	128	97.9	84.8	45.8	40.1		
	1.75V	596	420	263	210	169	149	126	97.4	84.0	45.8	39.9		
	1.80V	576	407	256	204	164	144	123	94.5	83.6	45.4	39.7	20.5	
	1.85V	538	378	239	189	152	134	114	87.8	77.7	42.0	37.8	20.5	8.57

Note: The above characteristics data can be obtained within three charge/discharge cycles.

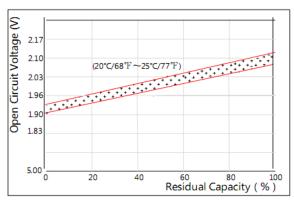
### **Discharge Characteristics**(25°C)



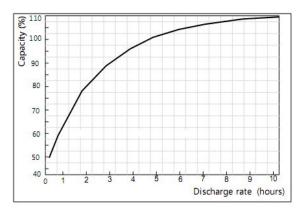
#### **Effect of Temperature on Capacity**



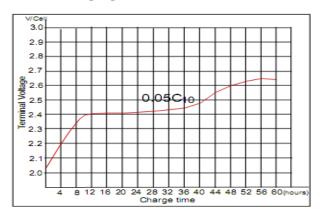
The Relationship for Open Circuit Voltage and Residual Capacity (25°C)



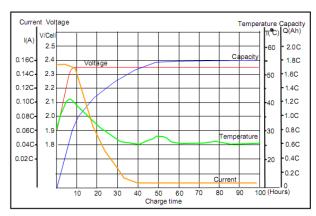
#### **Effect of Discharge rate on Capacity**



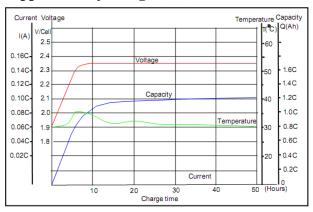
### Initial Charging (CC)Characteristics(25°C)



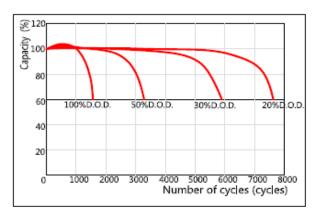
## **Initial Charging (CV)Characteristics**



Supplementary charge (CV) Characteristics



**Cycle Life on D.O.D(25℃)** 



www.efirstpower.com Page 2 of 2