EPBLUE®

ED Series

Maintenance-free Sealed Lead Acid Battery

Application for solar powered systems.

1. Brief Introduction for ED Series Batteries

The EPBLUE® ED Series Maintenance-free Sealed Lead Acid Battery should be used for solar systems and related storage energy fields, using 4BS paste technology and high temperature curing process to make battery has longer life. Unique paste ration to make battery has super charging and discharging capacity and resilience. Using plates twins pack technology to make battery performance more stable.

2. Construction for ED Series Batteries

Component	Raw material
Positive Plate	Lead dioxide
Negative Plate	Lead
Container & Cover	ABS UL94HB/V0
Safety Valve	Rubber
Terminal	Lead / F7 | Copper / F11
Separator	Fiberglass
Electrolyte	Sulfuric acid

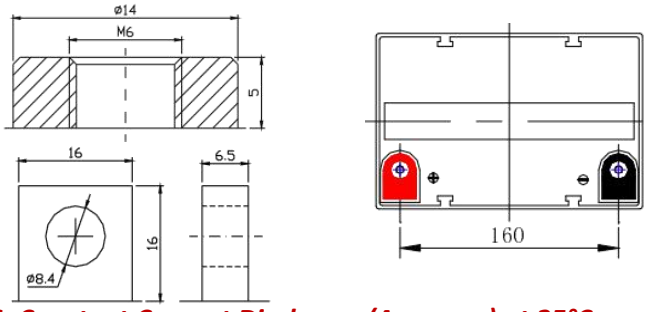
3. Specifications

Nominal Voltage		12 Volt	
Nominal Capacity (10HR)		33 Ah	
Dimension	Length	195 mm	7.68 in
	Width	130 mm	5.12 in
	Height	155 mm	6.42 in
	Total Height (with terminals)	168 mm	7.09 in
Weight	Approx.	10.6 kg	23.3 ibs

4. Characteristics

Rated Capacity 25°C (77°F)	C_{20} 1.80V/Cell	35 Ah
	C_{10} 1.80V/Cell	33 Ah
	C_5 1.80V/Cell	28 Ah
	C_1 1.70V/Cell	20 Ah
Capacity Affected by Temperature (10 HR)	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Internal Resistance		9 mΩ
Max. Discharge Current 25°C (77°F)		330 A (5S)
Nominal Operating Temperature Range		25 ± 3°C (77 ± 5°F)
Operating Temperature Range	Discharge : -15 ~ 50°C (5 ~ 122°F)	
	Charge: 0 ~ 40°C (32 ~ 104°F)	
	Storage: -15 ~ 40°C (5 ~ 104°F)	
Cycle Use	Initial charging current less than 0.3CA. Voltage 14.40V ~ 14.70V at 25°C (77°F) temperature coefficient -15mV/°C.	
Standby Use	No limit on Initial charging current, Voltage 13.50V ~ 13.80V at 25°C(77°F) temperature coefficient -10mV/°C.	
Self Discharge	The EPBLUE® ED Series batteries may be stored for up to 6 months at 25°C (77°F), and then a freshening charge is required. For higher temperatures the time interval will be shorter.	

5. Physical Dimensions: mm



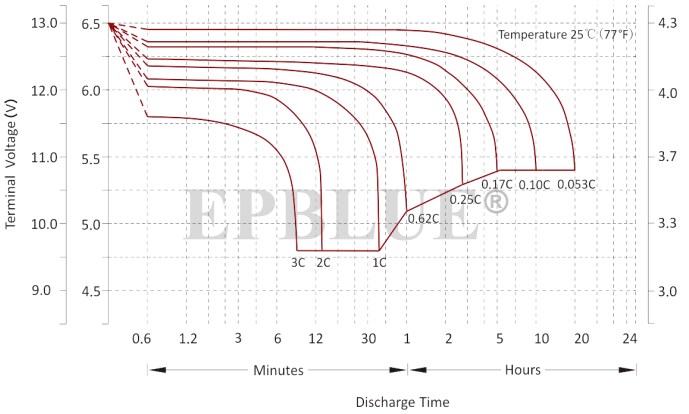
6. Constant Current Discharge (Amperes) at 25°C

F.V/Time	5Min	15Min	30Min	1Hr	2Hr	3Hr	5Hr	8Hr	10Hr	20Hr
1.60V/Cell	115.50	63.46	33.17	20.59	12.71	8.65	5.78	3.80	3.43	1.82
1.67V/Cell	112.20	62.17	32.74	20.46	12.47	8.48	5.74	3.76	3.40	1.78
1.70V/Cell	108.90	61.18	32.24	20.13	12.34	8.42	5.71	3.73	3.37	1.75
1.75V/Cell	97.78	58.41	31.35	19.80	12.18	8.32	5.68	3.70	3.33	1.72
1.80V/Cell	88.24	53.79	30.29	19.60	12.08	8.25	5.64	3.63	3.30	1.68
1.85V/Cell	75.34	48.18	29.17	19.14	11.55	8.09	5.61	3.29	3.27	1.65

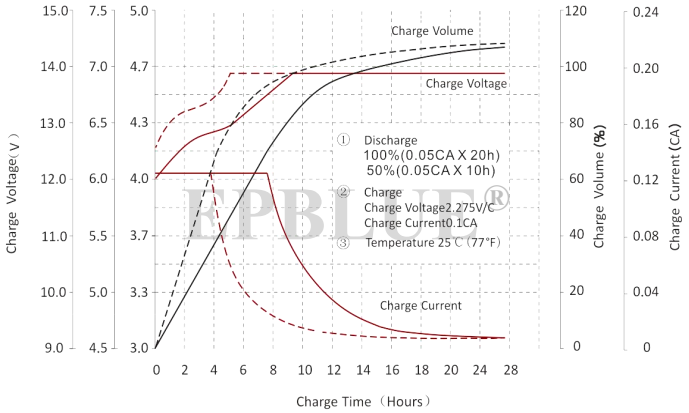
7. Constant Power Discharge (Watts/cell) at 25°C

F.V/Time	5Min	15Min	30Min	1Hr	2Hr	3Hr	5Hr	8Hr	10Hr	20Hr
1.60V/Cell	1219.0	692.0	380.0	238.7	149.0	101.71	69.30	45.64	41.18	21.91
1.67V/Cell	1194.9	680.1	375.0	236.5	147.0	100.19	68.64	45.44	40.85	21.52
1.70V/Cell	1181.1	673.0	372.0	235.1	146.0	99.79	68.31	45.11	40.49	21.12
1.75V/Cell	1075.1	642.0	364.1	233.7	143.7	97.88	67.65	44.72	40.10	20.72
1.80V/Cell	979.1	593.0	356.0	230.7	142.9	97.85	67.32	44.55	39.77	20.53
1.85V/Cell	860.0	534.0	346.0	227.0	138.0	96.23	67.16	44.22	39.27	19.80

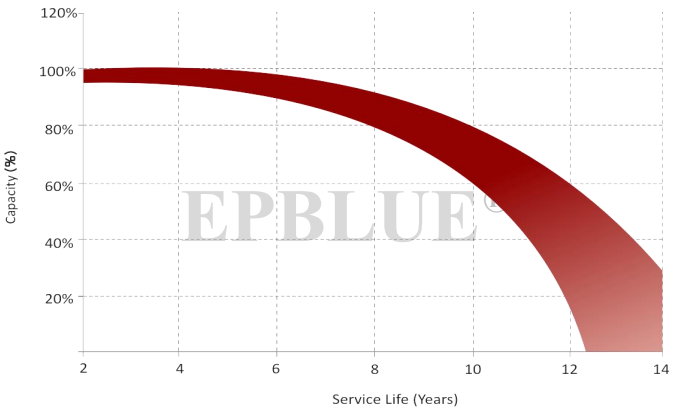
8. Discharge Characteristics



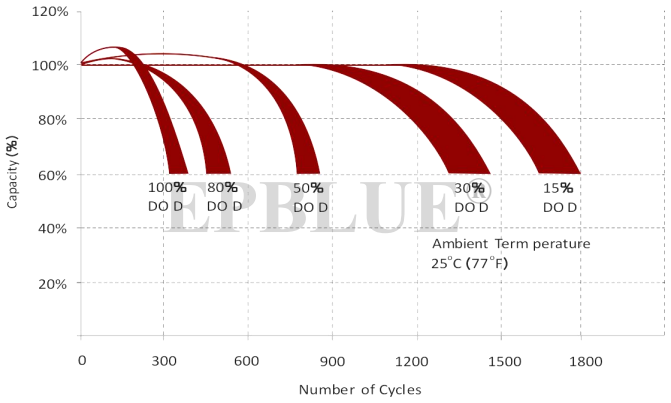
9. Float Charging Characteristics



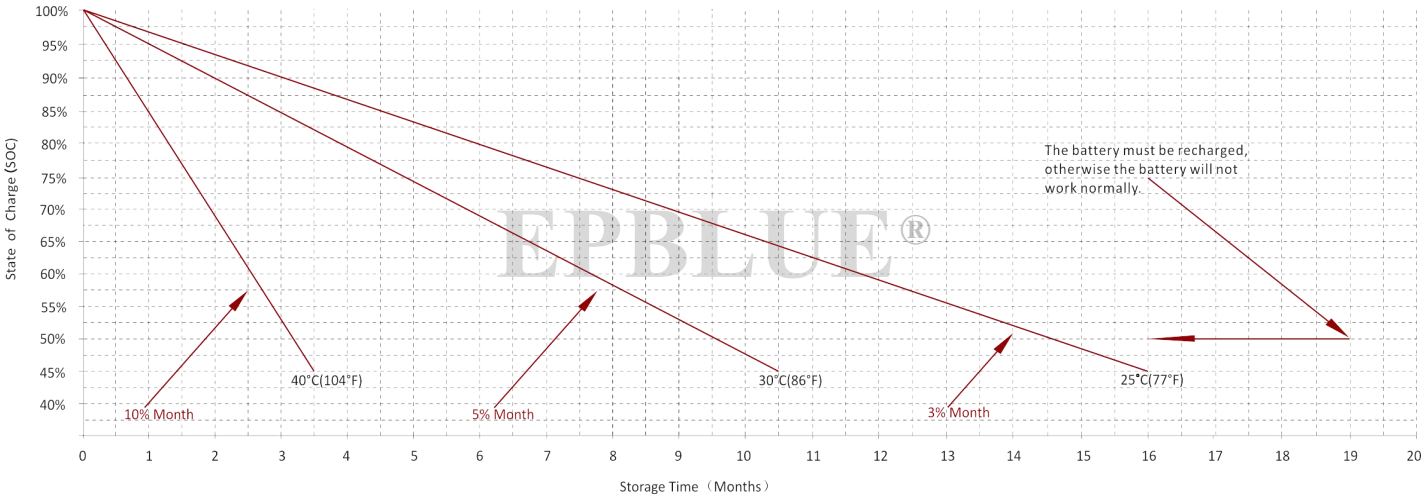
10. Float Service Life vs Capacity (%)



11. Cycle Life vs Depth of Discharge (DOD%)



12. Self Discharge Characteristics



13. Maintenance & Cautions

Cycle Service:

> Avoid battery over discharge, especially battery sereis connection use.

> Charged with recommend voltage, ensure battery can be full recharged. In general, recharge capacity should be 1.1-1.15 times discharge capacity.

> Effect of temperature on float charge voltage: -4mV/°C/Cell.

> There are a number of factors that will affect the length of cyclic service. The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged. Generally specking, the most important factors is depth of discharge.