



DEEP CYCLE SERIES

CCB 12DD-33

FOR DEEP CYCLE
MOBILITY APPLICATIONS
(12V33AH@ 20HR Rate)

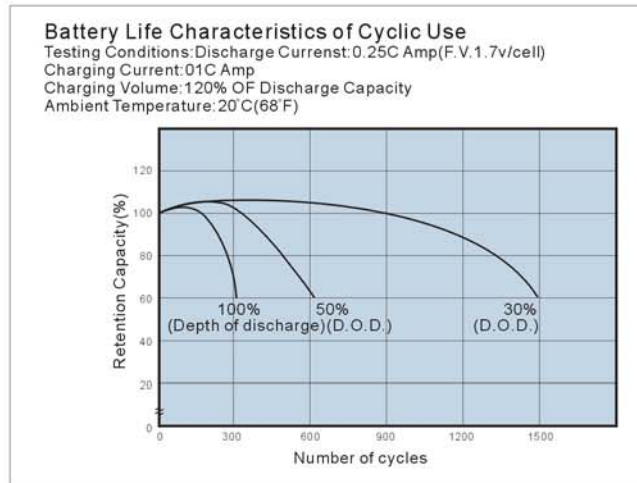
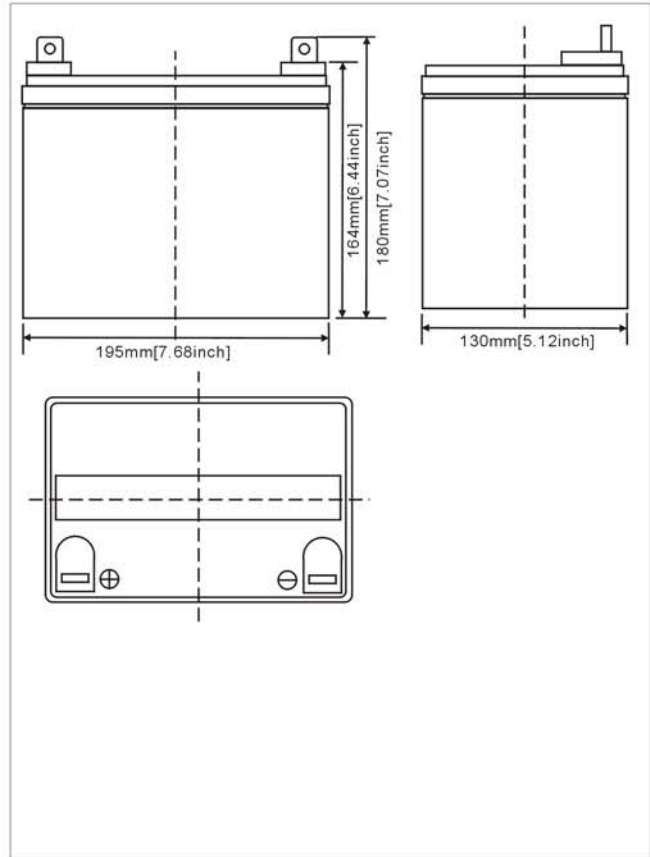
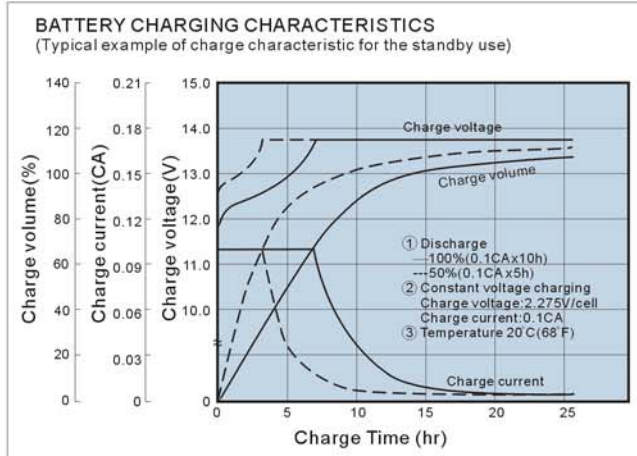
FEATURES

- *Robust plate for extended cycle life.
- *Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- *Computer-generated grid design optimized for high power density.
- *Float/ Cycle Use
- *Useable In Any Position
- *UL-recognized component
- *Available Flame Retardant Material(Optional)
- *Thermally welded case-to-cover bond to eliminate leakage.
- * Long Service Life. Maintenance-free operation.



Nominal Voltage		
Rated Capacity (20 Hour Rate)		
Dimensions	Length	195mm(7.68inches)
	Width	130mm(5.12inches)
	Height	164mm(6.44inches)
	Total Height	180mm(7.07inches)
	Weight	13.4Kg(29.54lbs)
Standard Terminals	ST3(standard)	

VRLA 12V33Ah - Specifications				
Nominal Voltage	Rated Capacity @20hr rate	Maximum Charge Rate	Maximum Discharge- Amps 5sec.	Internal Resistance
12V	33Ah	16.5Amps	600Amps	70Milli Ohms
Capacity@ 77 F(25 C)	33Ah @ 20Hr. Rate (1.65) to 1.75 volts per cell			
	29.2Ah @ 10Hr. Rate (2.92) to 1.80 volts per cell			
	25.7Ah @ 5Hr. Rate (5.14) to 1.85 volts per cell			
	26.10Ah @ 3Hr. Rate (8.70) to 1.75 volts per cell			
	19.70Ah @ 1Hr. Rate (19.70) to 1.75 volts per cell			
Operating Temperature Range	Discharge	-4°F (-20°C) to + 140°F (60°C)		
	Charge	14°F (-10°C) to + 122°F (50°C). (with temperature compensation)		
Recommonded Operating Temperature Range	+68 F (20°C)to + 77 F (25°C)			
Charging (Constant Voltage)	Cycle use	Initial Current7.8Amps (recommended).		
		Voltage 14.5-14.9Volts @77 F (25°C)		
	Float use	Voltage13.6-13.8Volts @77 F (25°C)		
Self Discharge @ 77 F (25°C)	Capacity after 3 month storage	90%		
	Capacity after 6 month storage	80%		
	Capacity after 12 month storage	60%		
	CCB Battery may be stored for up to 12 months at 77 F(25°C) and then a freshing charge is required. For higher temperatures the time interval will be shorter.			
Capacity affected by Temperature (20 hour rate)	104°F (40°C)	102%		
	77°F (25°C)	100%		
	32°F (0°C)	85%		
	58°F (-15°C)	65%		
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	13.20 A or smaller	
		Control voltage	14.5V to 14.9V	
	Trickle use	Initial current	4.95 A or smaller	
		Control voltage	13.6V to 13.8V	



Charging Procedure

Application	Charging method	Charging Voltage at 20°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/Ccell)	Max. charging current (CA)	Charging time 0.1CA, 20°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power Source	Constant voltage & Constant current charging	2.25~2.30	-3	0.3	24	20	0~40 (32~104 F)
For cycle service	charging (with current restriction)	2.40~2.0	-4	0.3	16	10	

Constant power discharge characteristics at 25°C/77°F

End Point Volts/Cell	Discharge Time In Hours													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
	Battery Output Power (Amp)													
1.90V	15.8	9.84	7.32	5.81	4.81	4.15	3.65	3.27	2.67	2.26	1.43	1.20	0.41	0.31
1.85V	12.6	10.3	7.71	6.16	5.14	4.42	3.84	3.43	2.84	2.43	1.53	1.28	0.44	0.33
1.80V	18.3	11.2	8.12	6.49	5.41	4.60	4.12	3.53	2.92	2.50	1.55	1.37	0.46	0.35
1.75V	19.7	11.7	8.70	7.12	5.79	4.97	4.31	3.80	3.12	2.70	1.65	1.40	0.47	0.36

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