

AP12-33 12V33Ah



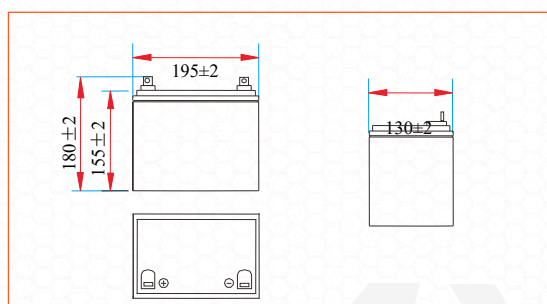
Sealed Maintenance Free / VRLA Battery

Specifications

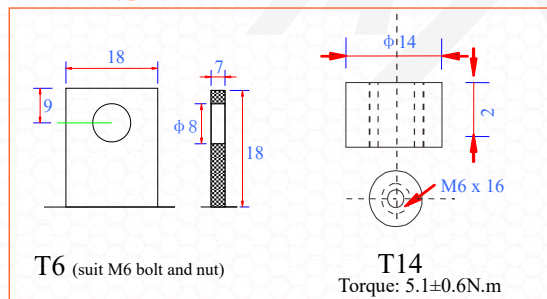
Nominal voltage	12V (6 cells per unit)	
Rated capacity (10HR)	33Ah/10.8V	
Dimensions	Length	195±2mm (7.68inch)
	Width	130±2mm (5.12inch)
	Height	155±2mm (6.10inch)
	Total height	T14: 167±2mm (6.57inch) T6: 180±2mm (7.09inch)
Approx. weight	10.00kg (22.00lbs)±4%	



Outer dimensions (mm)



Terminal type (mm)



Characteristics

Capacity (25°C)	10HR (10.8V)	33Ah
	3HR (10.8V)	24Ah
	1HR (10.5V)	19Ah
Terminal type		T6/T14
Internal resistance (Fully charged, 25°C)		Approx. 11mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity: 91%
	6 months	Remaining capacity: 82%
	12 months	Remaining capacity: 65%
Nominal operating temperature		25°C±3°C (77°F±5°F)
Operating temperature range	Discharge	-15°C~50°C (5°F~122°F)
	Charge	-10°C~50°C (14°F~122°F)
	Storage	-20°C~50°C (-4°F~122°F)
Float charging voltage (25°C)		13.50 to 13.80V Temperature compensation: -18mV/°C/Block
Cyclic charging voltage (25°C)		14.50 to 15.00V Temperature compensation: -30mV/°C/Block
Maximum charging current		9.9A
Maximum discharge current		330A (5 sec.)
Design life	10 years for floating (25°C)	
	Eurobat (20°C): 10-12 years, long life.	

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper/Lead

Constant current discharge characteristics unit: Ampere/Block (at 25°C, 77°F)

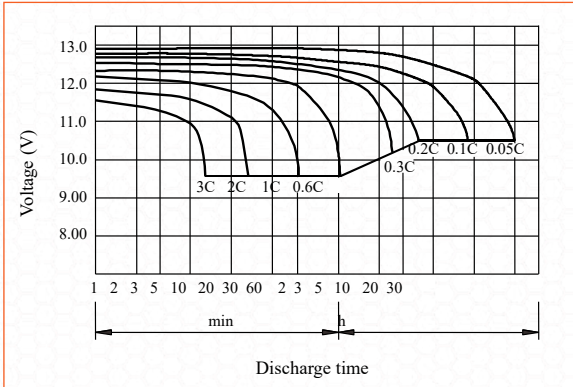
F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	71.9	55.4	33.2	20.4	12.1	8.68	6.93	5.92	4.07	3.36	1.78
9.90V	69.8	54.1	32.5	20.1	12.0	8.63	6.89	5.89	4.05	3.35	1.78
10.2V	66.9	52.1	31.5	19.6	11.9	8.57	6.85	5.85	4.02	3.34	1.77
10.5V	64.0	50.3	30.7	19.0	11.7	8.51	6.80	5.81	3.99	3.32	1.76
10.8V	60.4	47.7	29.6	18.4	11.4	8.26	6.59	5.63	3.87	3.30	1.75

Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

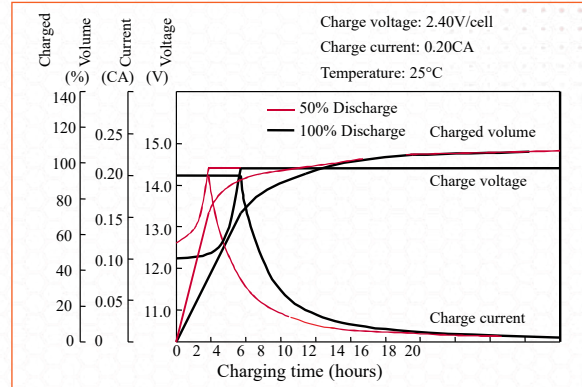
F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	777	609	372	232	140	102	81.5	70.0	48.4	40.1	21.4
9.90V	754	594	365	229	139	102	81.1	69.6	48.1	40.0	21.3
10.2V	723	572	354	223	138	101	80.5	69.1	47.8	39.9	21.3
10.5V	691	553	345	216	136	100	79.9	68.7	47.4	39.7	21.1
10.8V	653	524	332	209	132	97.1	77.5	66.6	46.0	39.4	21.0

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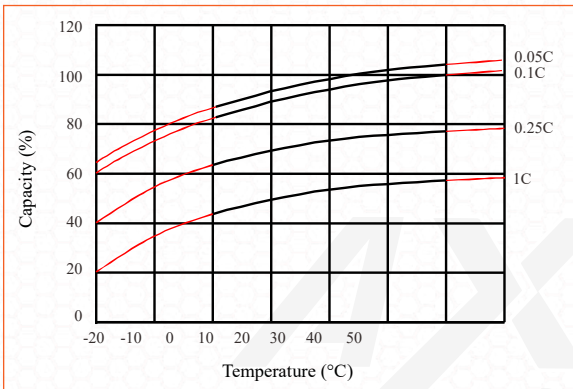
Discharge characteristics (25°C)



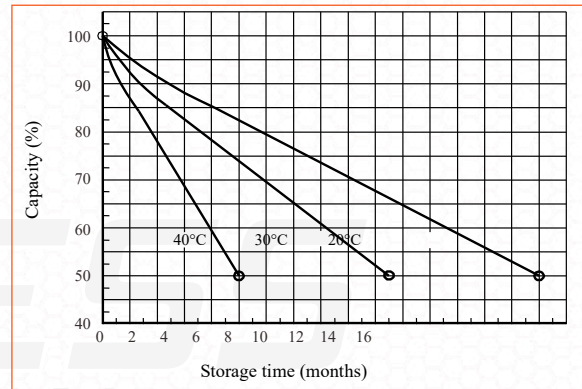
Charging characteristics (25°C)



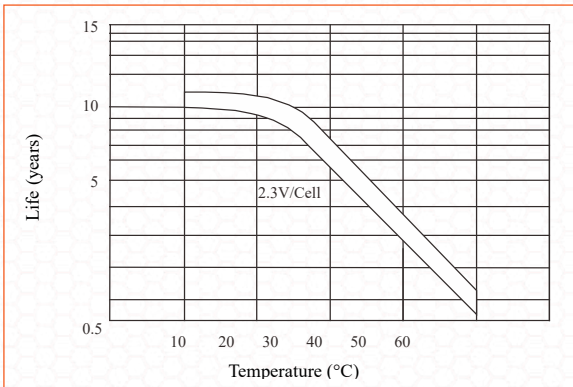
Temperature effects on capacity



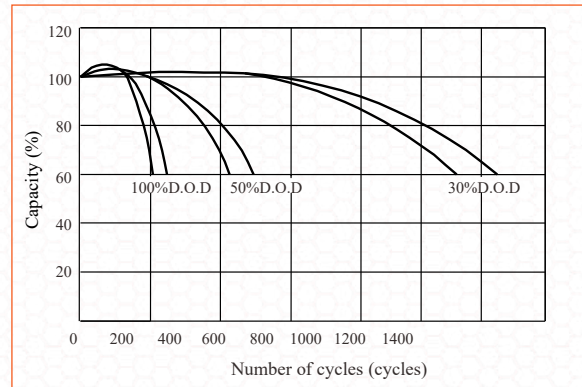
Self-discharge characteristics



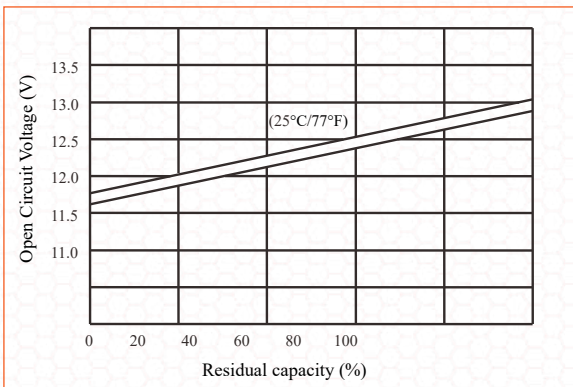
Floating life on temperature



Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Relationship for charging voltage and temperature

