General features for MPa Series (AGM) battery

- Stable quality & high reliability.
- Unique contstruction and sealing technique guarantees.
- Design life 5years in float service;Long service life ,float or cyclic, which is shown in the specification sheet.
- Maintenance-free operation. UL-recognized component.
- Heavy duty grids: The heavy-duty lead calcium-alloy grids ,provide an extra margin of performance and service life in float & cyclic.
- Case and cover are avaiable in both standard and flame retardant ABS.
- Low self discharge;low pressure venting system.

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MP12-18 (12V18Ah)

Specifications

Nominal Voltage		12V
Rated capacity (20 hour rate)		18Ah
Dimensions (±2mm)	Total Height	167 mm (6.57 inches)
	Height	167 mm (6.57 inches)
	Length	181 mm (7.13 inches)
	Width	77 mm (3.03 inches)
Weight Approx (±3%)		5.05Kg (11.12 lbs)

Battery picture and construction

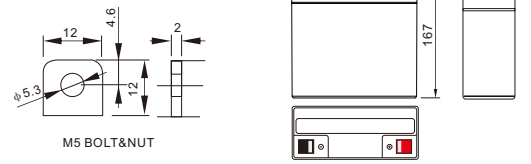
Battery Construction

Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

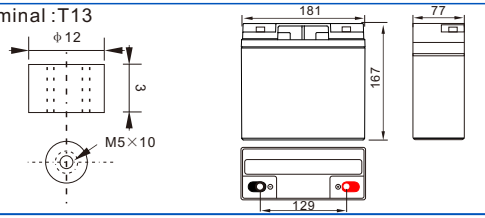
Outer dimension and terminal

Outer dimensions(±2mm) Unit:mm

Terminal : T3



Terminal :T13



Characteristics

Capacity 25℃(77℉)	20 hour rate(0.9 A,10.5V) 10 hour rate(1.66A,10.5V) 5 hour rate(3.06A,10.5V) 1 hour rate(10.8 A,9.6V)	18.0Ah 16.6Ah 15.3Ah 10.8 Ah
Internal Resistance	Full charged battery at 25℃(77℉)	16 mΩ
Capacity affected by Temperature (20hour rate)	40℃ (104℉) 25℃ (77℉) 0℃ (32℉) -15℃ (5℉)	102% 100% 85% 65%
Remaining capaicty Self-Discharge At 25℃(77℉)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type		T3 (Option T13)
Max. Discharge current 25℃/(77℉)		270A (5Seconds)
Nominal operating temperature		25℃ ±5℃(77℉ ±9℉)
Operating Temperature Range	Discharge Charge Storage	-15℃～50℃ (5℉～122℉) -10℃～50℃ (14℉～122℉) -20℃～50℃ (-4℉～122℉)
Charge methods (constant Voltage) At 25℃(77℉)	Cycle use	Initial Charging Current less than 5.4 A Voltage 14.50-14.90V Temperature compensation:-30mV/℃
	Standby use	Voltage 13.50-13.80V Temperature compensation:-18mV/℃

Constant current discharge (25℃ , 77 ℉)

Unit:A

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25℃(77℉)

Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	64.8	42.5	31.5	20.7	10.8	6.3	4.64	3.72	3.16	2.08	1.70	0.93
	W	764.2	480.0	363.0	219.7	124.5	72.9	53.63	43.05	36.53	24.08	19.72	10.80
10.20V	A	59.4	40.6	28.9	19.7	10.1	6.0	4.50	3.60	3.10	2.05	1.67	0.91
	W	719.2	454.5	341.2	218.3	117.0	70.0	52.12	41.70	35.85	23.70	19.35	10.50
10.50V	A	54.1	38.0	27.0	19.0	9.8	5.9	4.42	3.42	3.08	2.03	1.66	0.90
	W	694.5	441.0	326.3	216.0	113.5	68.6	51.22	39.60	35.63	23.48	19.20	10.43
10.80V	A	52.0	36.3	25.2	18.5	9.5	5.8	4.35	3.36	2.93	1.97	1.61	0.88
	W	609.0	427.5	314.2	215.2	110.3	67.2	50.63	39.11	34.05	22.50	18.75	10.20
11.10V	A	48.1	34.2	23.4	18.0	9.1	5.6	4.13	3.30	2.80	1.92	1.58	0.86
	W	588.7	413.2	299.3	213.8	108.8	66.7	49.13	39.00	33.30	21.75	18.37	10.13

(Above characteristics data are average values obtained within three charge/discharge cycles,not the minimum values.)

Constant power discharge (25℃ , 77 ℉)

Unit:watts

VRLA Battery (AGM technology)
Maintenance-free Sealed Lead Acid Rechageable Battery

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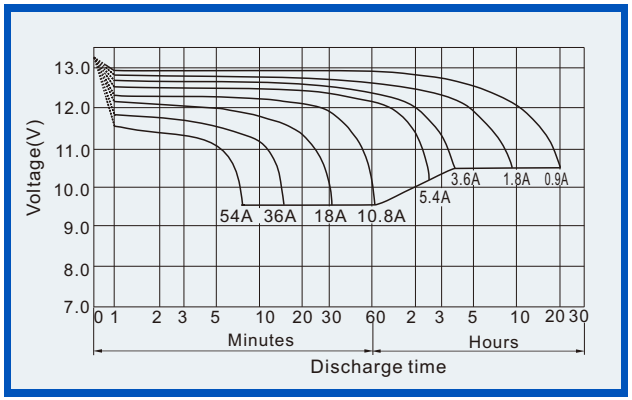
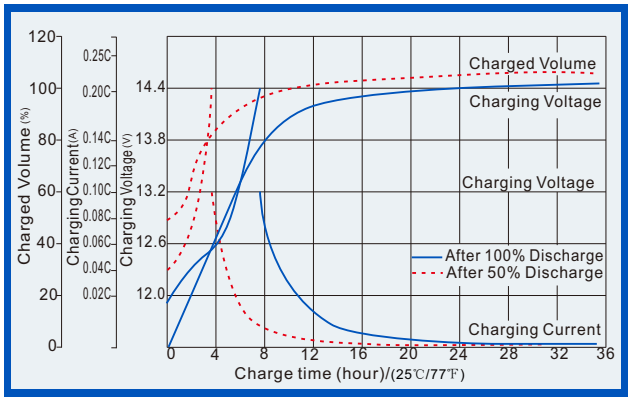
MP12-18 (12V18Ah)

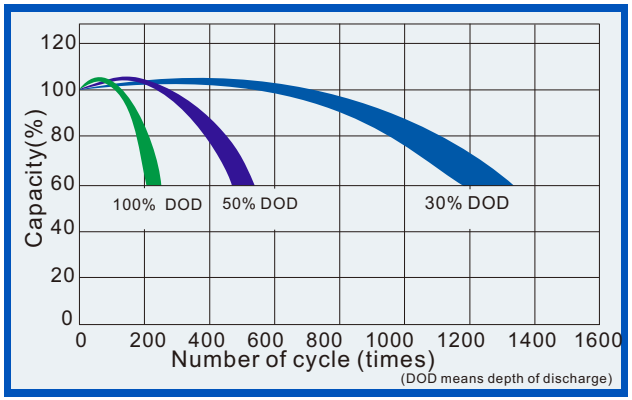
Discharge characteristics (25℃,77℉)



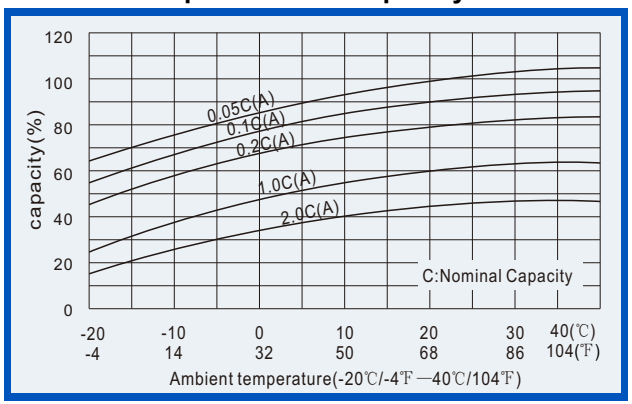
Charge characteristics (25℃,77℉)



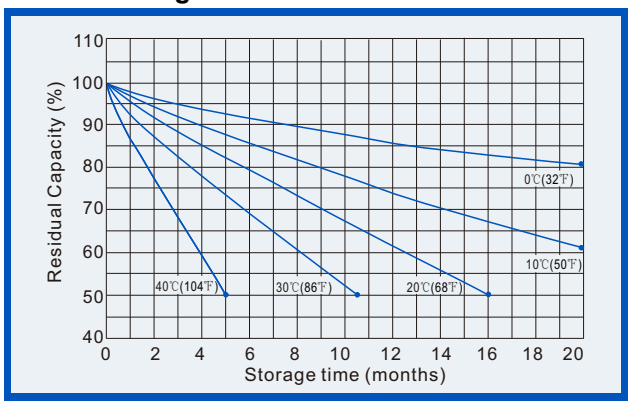
Life characteristics of Cyclic Use (25℃,77℉)



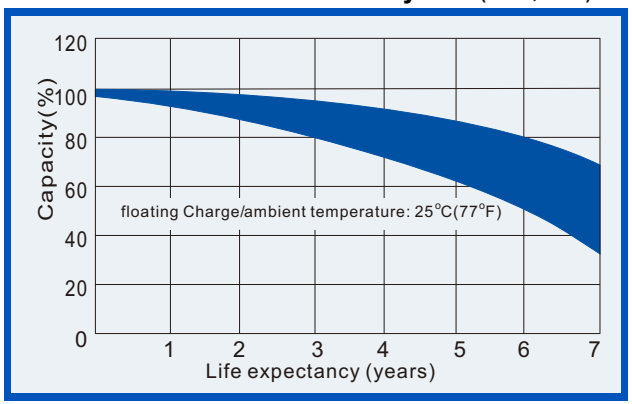
Effect of Temperature on capacity



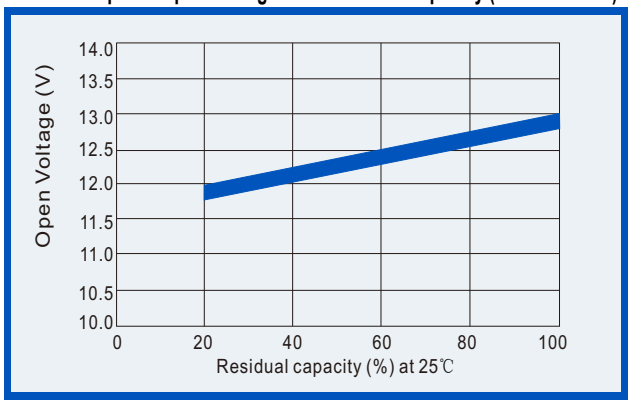
Self-discharge characteristics



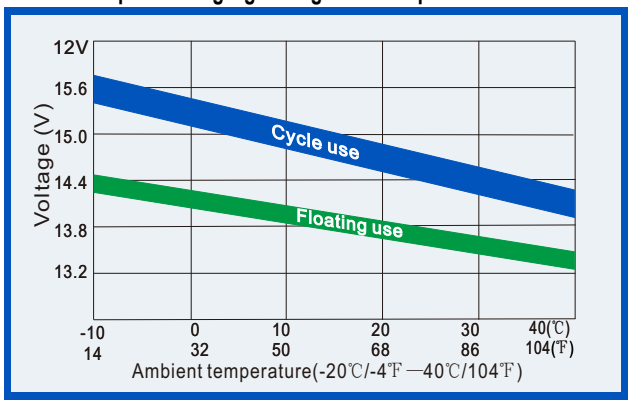
Life Characteristics of standby use (25℃,77℉)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life