

### General features for MPa Series (AGM) battery

- \* Stable quality & high reliability.
- \* Unique construction 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 available in both standard and flame retardant ABS.
- \* Low self discharge; low pressure venting system.



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## MP12-7.5 (12V7.5Ah)

### Specifications

Nominal Voltage	12V	
Rated capacity (20 hour rate)	7.5Ah	
Dimensions (±1.5mm)	Total Height	100 mm (3.94 inches)
	Height	94 mm (3.70 inches)
	Length	151 mm (5.94 inches)
	Width	65 mm (2.56 inches)
Weight Approx(±3%)	2.20Kg (4.83 lbs)	

### Battery picture and construction

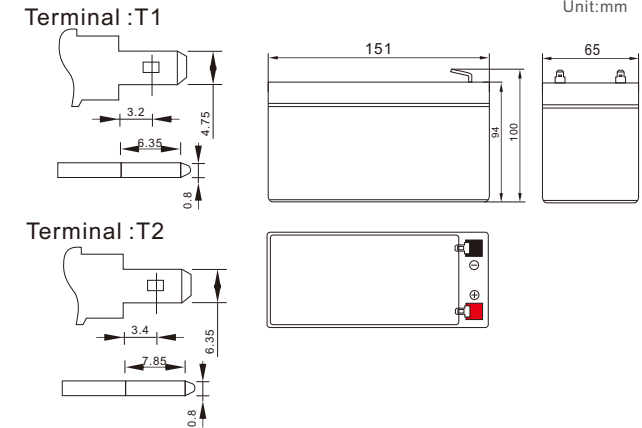


#### Battery Construction

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(±1.5mm)  
Unit:mm



### Characteristics

Capacity 25°C(77°F)	20 hour rate(0.375 A, 10.5V) 10 hour rate(0.69A, 10.5V) 5 hour rate(1.28A, 10.5V) 1 hour rate(4.5 A, 9.6V)	7.5Ah 6.9Ah 6.4Ah 4.5 Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 22 mΩ
Capacity affected by Temperature (20hour rate)	40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F)	102% 100% 85% 65%
Remaining capacity	Capacity after 3 month storage	91%
Self-Discharge	Capacity after 6 month storage	82%
	Capacity after 12 month storage	64%
Terminal type	T1 (Option T2)	
Max. Discharge current 25°C/(77°F)	112A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°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)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 2.25A Voltage 14.50-14.90V Temperature compensation:-30mV/°C
	Standby use	Voltage 13.50-13.80V Temperature compensation:-18mV/°C

### Constant current discharge (25°C , 77 °F)

Unit:A

### Constant power discharge (25°C , 77 °F)

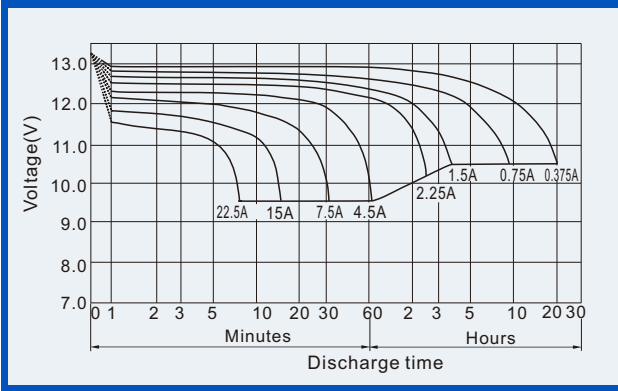
Unit:watts

Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	27.0	17.7	13.1	8.63	4.50	2.63	1.93	1.55	1.32	0.87	0.388
	W	318.4	200.0	151.3	91.6	51.9	30.4	22.34	17.94	15.22	10.03	4.500
10.20V	A	24.8	16.9	12.1	8.19	4.22	2.52	1.88	1.50	1.29	0.85	0.378
	W	299.7	189.4	142.2	90.9	48.8	29.2	21.72	17.38	14.94	9.88	4.375
10.50V	A	22.5	15.8	11.3	7.94	4.09	2.47	1.84	1.43	1.28	0.84	0.375
	W	289.4	183.8	135.9	90.0	47.3	28.6	21.34	16.50	14.84	9.78	4.344
10.80V	A	21.7	15.1	10.50	7.72	3.95	2.41	1.81	1.40	1.22	0.82	0.366
	W	253.7	178.1	130.9	89.7	45.9	28.0	21.09	16.30	14.19	9.38	4.250
11.10V	A	20.0	14.3	9.75	7.50	3.81	2.34	1.72	1.37	1.17	0.80	0.356
	W	245.3	172.2	124.7	89.1	45.3	27.8	20.47	16.25	13.88	9.06	4.219

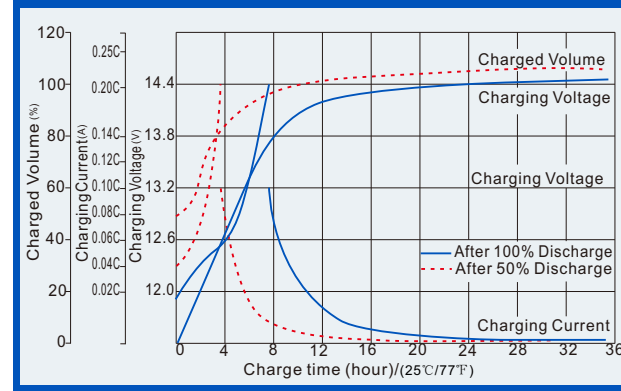
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

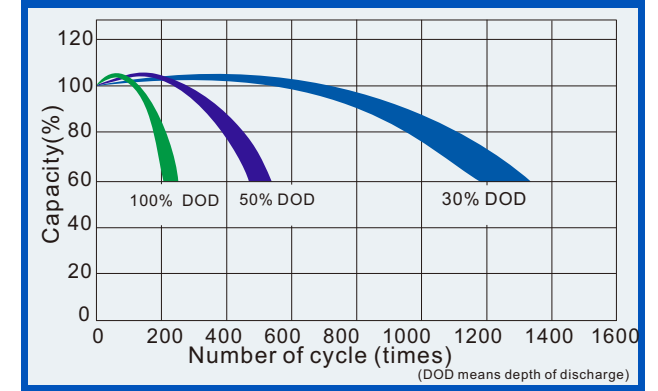
**Discharge characteristics (25°C, 77°F)**



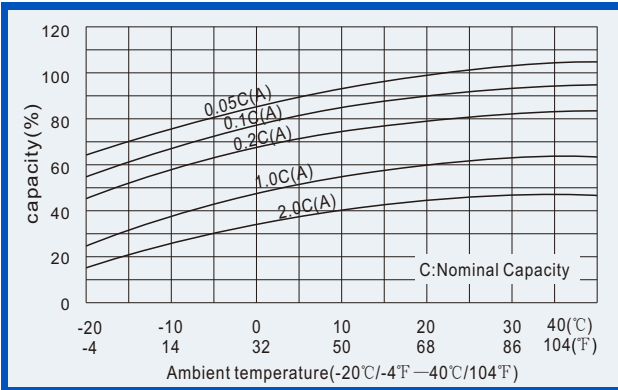
**Charge characteristics (25°C, 77°F)**



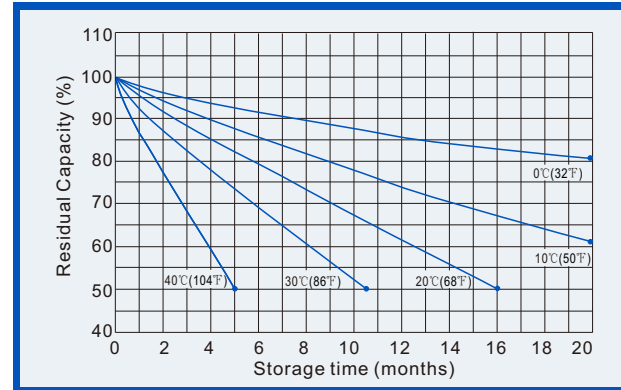
**Life characteristics of Cyclic Use (25°C, 77°F)**



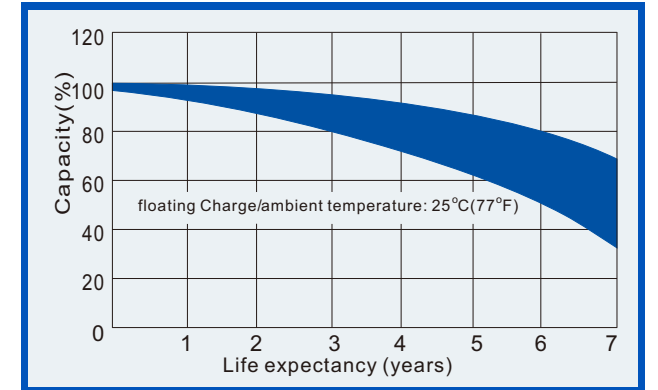
**Effect of Temperature on capacity**



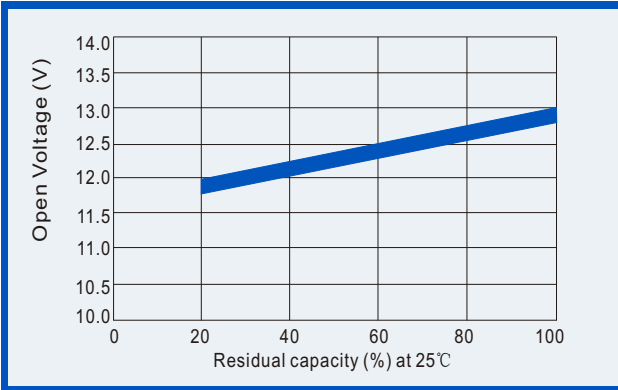
**Self-discharge characteristics**



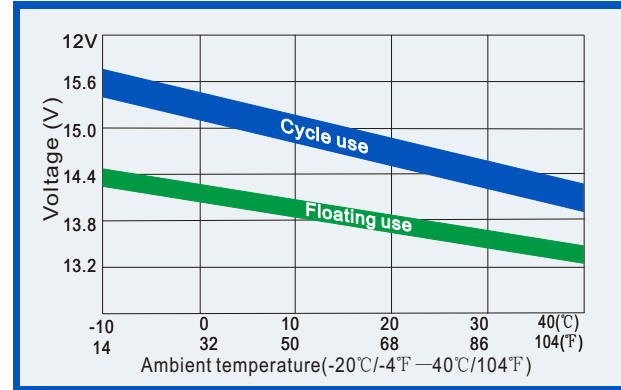
**Life Characteristics of standby use (25°C, 77°F)**



**Relationships for open voltage and remained capacity (for reference)**



**Relationship for charging voltage and temperature**



**Temperature effects on floating life**

