

## General features for MPE Series (Deep-cycle) battery

- \* Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- \* Computer designed lead, calcium tin alloy grid for high power density.
- \* UL-recognized component.
- \* Long service life, float or cyclic applications.
- \* Maintenance-free operation.
- \* Low self discharge.
- \* Case and cover are available in both standard and flame retardant ABS (Standard :UL94V0).



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**MPE12-120 (12V120Ah)**

## Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		120 Ah
Dimensions (±2mm)	Total Height	233 mm (9.17 inches)
	Height	209 mm (8.23 inches)
	Length	407 mm (16.0 inches)
	Width	174mm (6.85 inches)
Weight Approx(± 3%)		35.0 Kg (77.0 lbs)

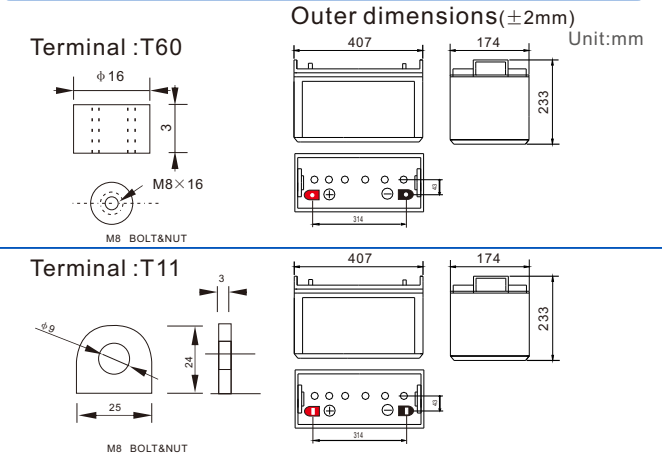
## Battery picture and construction



### 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



## Characteristics

Capacity 25°C(77°F)	10 hour rate(12.0 A,10.8V) 5 hour rate(19.2A,10.5V) 1 hour rate(72 A,9.6V)	120 Ah 96Ah 72Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 4.0mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	102%
	25°C (77°F)	100%
	0°C (32°F)	85%
	-15°C (5°F)	65%
Remaining capacity Self-Discharge At 25°C(77°F)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	82%
	Capacity after 12 month storage	64%
Terminal type		T60 (Option T11)
Max. Discharge current 25°C/(77°F)		930A (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 30 A Voltage 14.5-15.0V Temperature compensation:-30mV/°C
	Standby use	Voltage 13.5-13.8V Temperature compensation:-18mV/°C

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

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

Unit:A

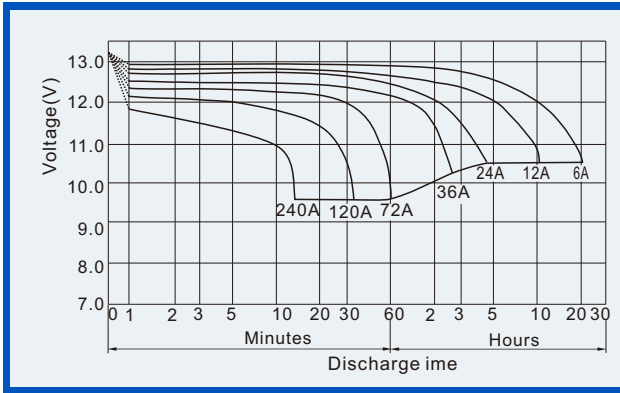
Unit:watts

Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	384	253	204	136.8	72.0	42.0	30.8	24.0	19.8	14.04	6.80
	W	3967	2704	2189	1471	778	461	343	270	225	161	79.1
10.20V	A	372	228	192	130.8	67.7	40.1	30.0	23.4	19.4	13.68	6.60
	W	3976	2551	2151	1468	765	462	347	272	227	160	77.4
10.50V	A	360	204	168	122.4	65.5	39.1	29.3	23.0	19.2	13.56	6.60
	W	3933	2325	1919	1409	759	454	341	270	225	159	78.0
10.80V	A	347	193	156	112.8	63.4	38.2	28.6	22.7	18.7	13.20	6.48
	W	3894	2221	1800	1307	738	447	337	268	221	156	77.2
11.10V	A	335	180	144	100.8	61.2	37.2	27.6	22.1	18.2	12.84	6.12
	W	3803	2090	1679	1179	720	440	328	263	218	154	74.2

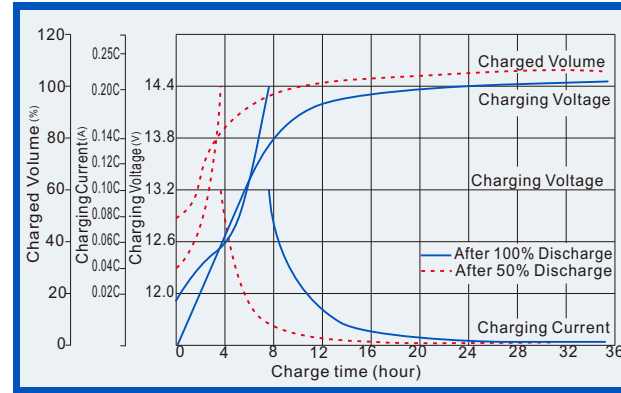
(Above characteristics data are average values obtained within three charge/discharge cycles,not the minimum values.)

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

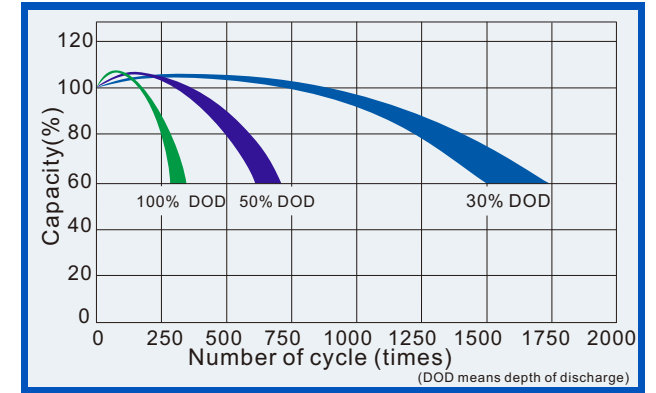
**Discharge characteristics (25°C, 77°F)**



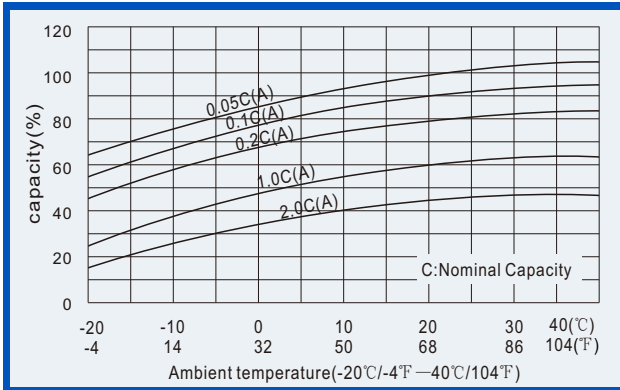
**Charge characteristics (25°C, 77°F)**



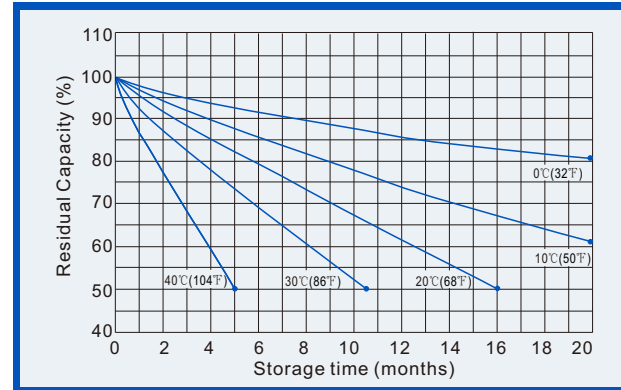
**Life characteristics of Cyclic Use (25°C, 77°F)**



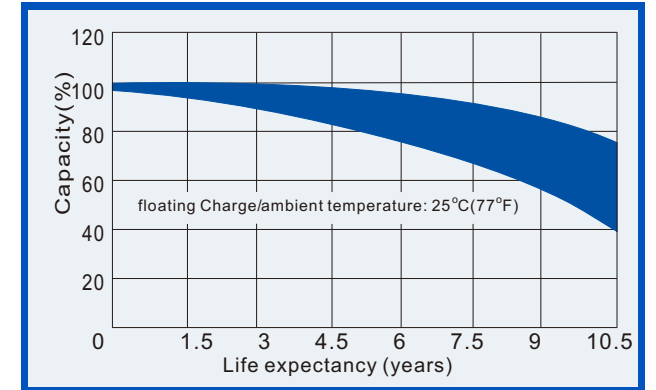
**Effect of Temperature on capacity**



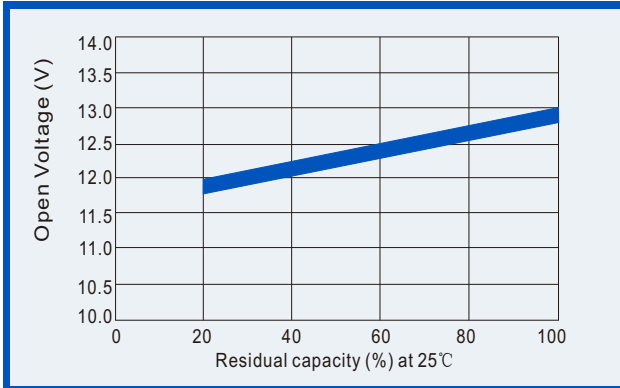
**Self-discharge characteristics**



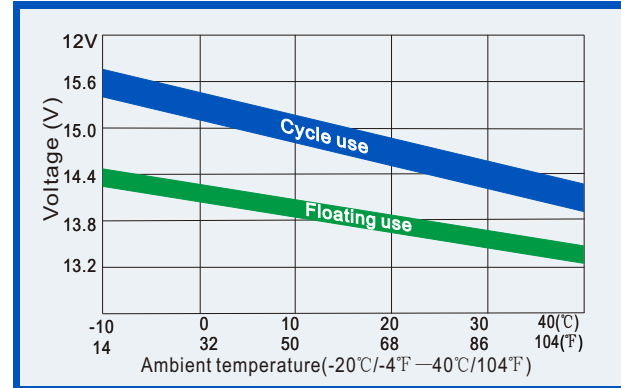
**Life Characteristics of standby use (25°C, 77°F)**



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



**Relationship for charging voltage and temperature**



**Temperature effects on floating life**

