

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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MPE12-9 (12V9Ah)

Specifications

Nominal Voltage	12V	
Rated capacity (20 hour rate)	9.0Ah	
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%)	2.45Kg (5.4 lbs)	

Battery picture and construction



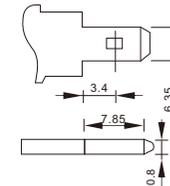
Battery Construction

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

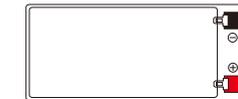
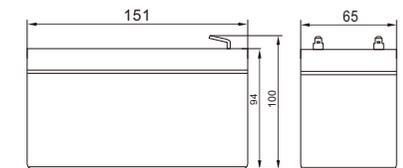
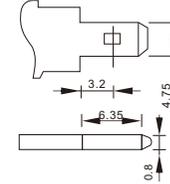
Outer dimension and terminal

Outer dimensions(±1.5mm)
Unit:mm

Terminal :T2



Terminal :T1



Characteristics

Capacity 25°C(77°F)	20 hour rate(0.45 A, 10.5V) 10 hour rate(0.83A, 10.5V) 5 hour rate(1.53A, 10.5V) 1 hour rate(5.4 A, 9.6V)	9.0Ah 8.3Ah 7.65Ah 5.4Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 18mΩ
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 Self-Discharge At 25°C(77°F)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type	T2 (Option T1)	
Max. Discharge current 25°C/(77°F)	135A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge Charge Storage	-15°C ~50°C (5°F ~122°F) -10°C ~50°C (14°F ~122°F) -20°C ~50°C (-4°F ~122°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use Standby use	Initial Charging Current less than 2.7 A Voltage 14.50-15.00V Temperature compensation:-30mV/°C Voltage 13.50-13.80V Temperature compensation:-18mV/°C

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

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

Unit:A

Unit:watts

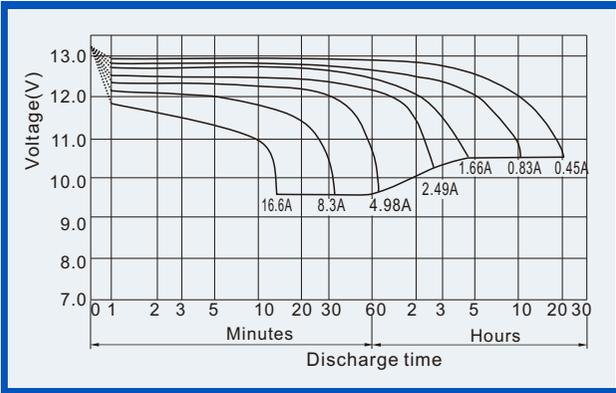
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h	
9.60V	A	32.4	21.2	15.8	10.35	5.40	3.15	2.32	1.86	1.58	1.04	0.85	0.47
	W	382.1	240.0	181.5	109.9	62.3	36.5	26.81	21.53	18.26	12.04	9.86	5.40
10.20V	A	29.7	20.3	14.5	9.83	5.07	3.02	2.25	1.80	1.55	1.02	8.36	0.45
	W	359.6	227.3	170.6	109.1	58.5	35.0	26.06	20.85	17.93	11.85	9.68	5.25
10.50V	A	27.0	19.0	13.5	9.52	4.91	2.96	2.21	1.71	1.54	1.01	0.83	0.45
	W	347.2	220.5	163.1	108.0	56.8	34.3	25.61	19.80	17.81	11.74	9.60	5.21
10.80V	A	26.0	18.2	12.60	9.26	4.74	2.89	2.18	1.68	1.46	0.99	0.81	0.44
	W	304.5	213.8	157.1	107.6	55.1	33.6	25.31	19.56	17.03	11.25	9.38	5.10
11.10V	A	24.0	17.1	11.70	9.00	4.57	2.81	2.06	1.65	1.40	0.96	0.79	0.43
	W	294.4	206.6	149.6	106.9	54.4	33.4	24.56	19.50	16.65	10.87	9.19	5.06

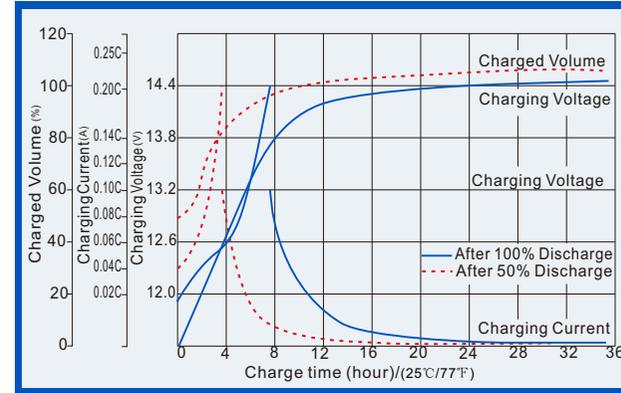
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

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

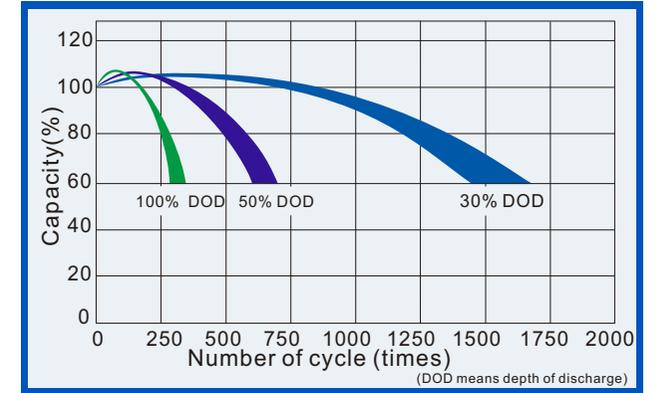
Discharge characteristics (25°C, 77°F)



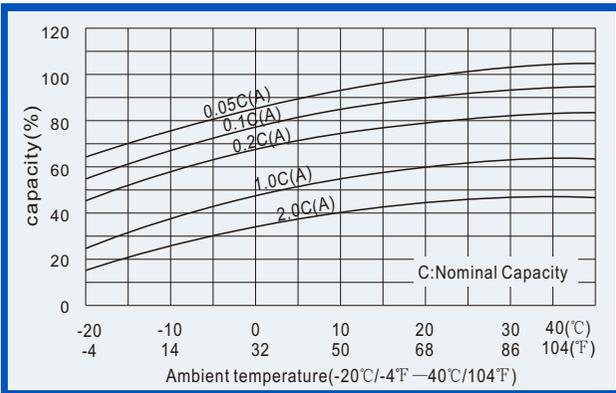
Charge characteristics (25°C, 77°F)



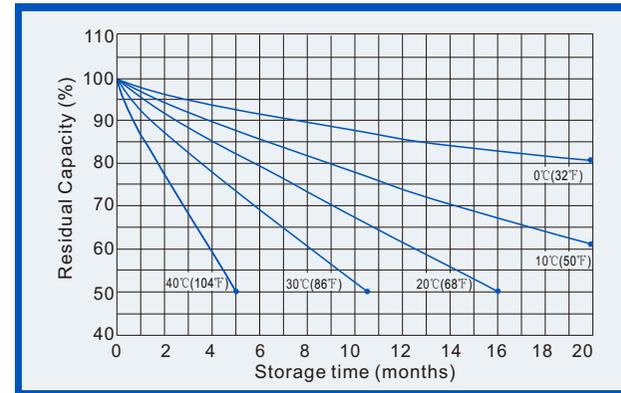
Life characteristics of Cyclic Use (25°C, 77°F)



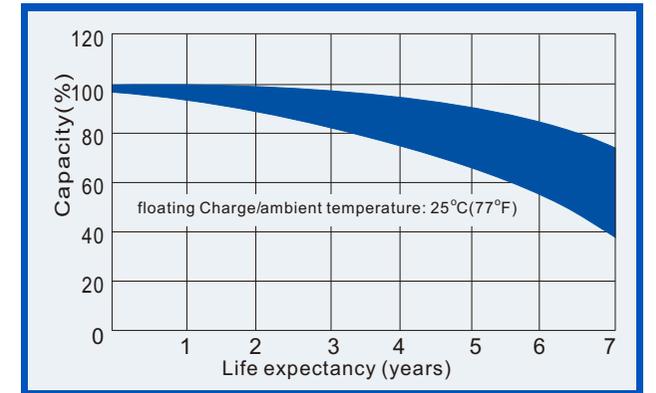
Effect of Temperature on capacity



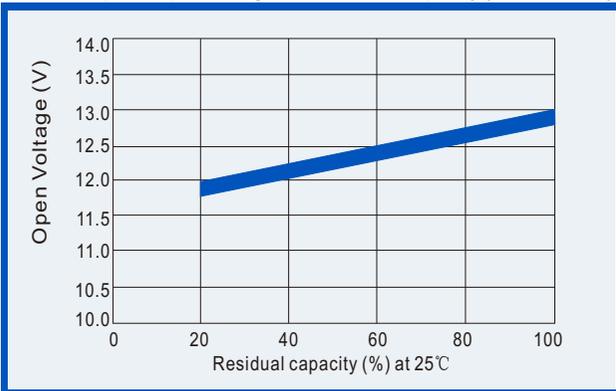
Self-discharge characteristics



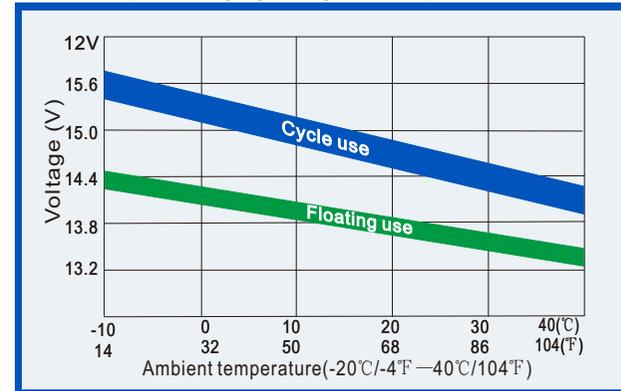
Life Characteristics of standby use (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

