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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MPE12-20 (12V20Ah)

Specifications

Nominal Voltage		12V
Rated capacity (20 hour rate)		20Ah
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%)		5.80Kg (12.77 lbs)

Battery picture and construction

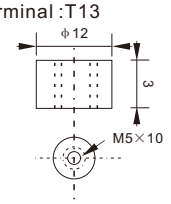
Battery Construction

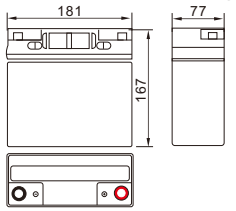
Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal

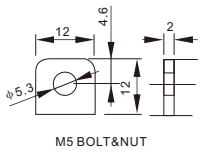
Outer dimensions(±2mm)
Unit:mm

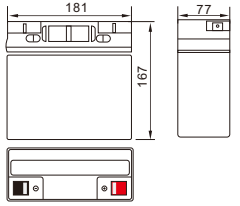
Terminal :T13





Terminal : T3





Characteristics

Capacity 25℃(77℉)	20 hour rate(1.0 A,10.5V) 10 hour rate(1.84A,10.5V) 5 hour rate(3.43A,10.5V) 1 hour rate(12.8 A,9.6V)	20.0Ah 18.4Ah 17.1Ah 12.8Ah
Internal Resistance	Full charged battery at 25℃(77℉)	Approx 9mΩ
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		T13 (Option T3)
Max. Discharge current 25℃/(77℉)		300A (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 6.0 A Voltage 14.50-15.00V Temperature compensation:-30mV/℃
	Standby use	Voltage 13.50-13.80V Temperature compensation:-18mV/℃

Constant current discharge (25℃ , 77 ℉)

Unit:A

Constant power discharge (25℃ , 77 ℉)

Unit:watts

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

Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	74.00	45.00	35.00	23.00	12.80	8.40	5.15	4.13	3.51	2.32	1.82	1.03
	W	784.4	479.3	374.5	248.40	139.52	91.56	56.65	45.47	38.59	25.71	20.19	11.57
10.20V	A	68.00	44.00	32.00	21.83	12.00	8.06	5.00	4.00	3.44	2.28	1.86	1.01
	W	751.4	488.4	356.8	245.63	135.00	91.08	56.50	45.40	39.06	25.82	21.09	11.44
10.50V	A	64.00	42.00	30.00	21.17	11.80	7.90	4.92	3.80	3.43	2.25	1.84	1.00
	W	720.0	472.5	336.0	241.30	134.52	90.46	56.30	43.70	39.39	25.88	21.16	11.50
10.80V	A	58.00	40.00	28.00	20.20	11.20	7.70	4.83	3.73	3.25	2.19	1.79	0.98
	W	658.3	456.0	320.6	233.31	129.36	88.93	56.07	43.49	37.86	25.53	20.87	11.36
11.10V	A	48.00	38.00	26.00	18.00	10.60	7.50	4.58	3.67	3.11	2.13	1.75	0.95
	W	552.0	438.9	301.6	210.60	124.02	87.75	53.85	43.27	36.68	25.17	20.65	11.21

(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 Rechageable Battery

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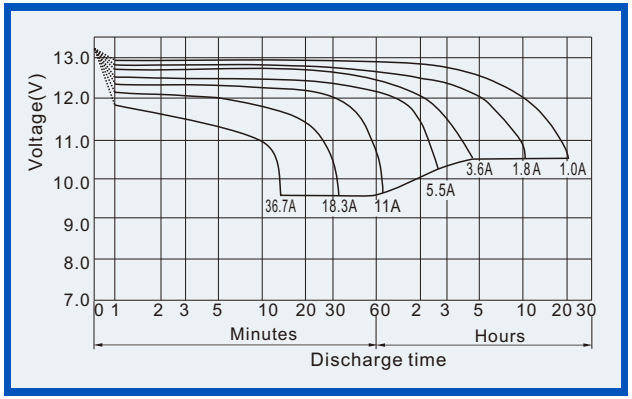
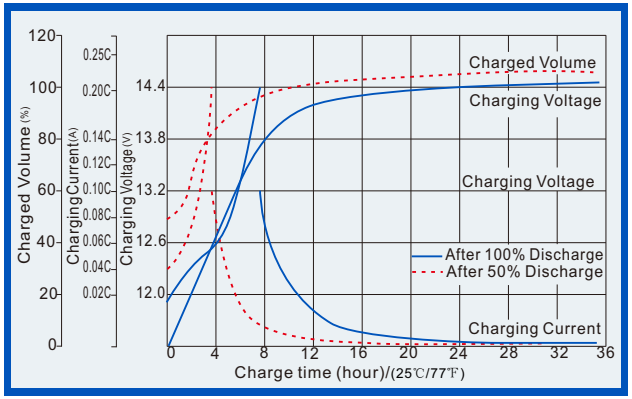
MPE12-20 (12V20Ah)

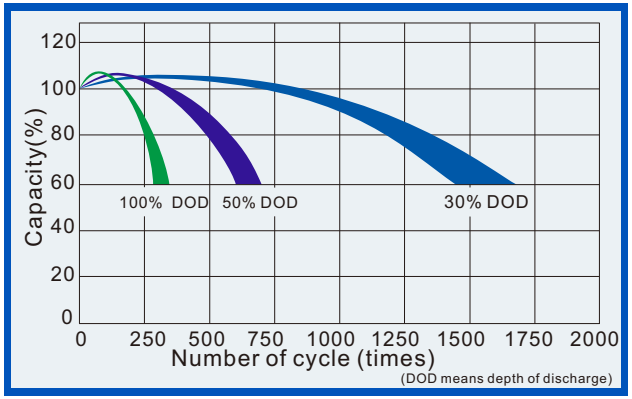
Discharge characteristics (25℃,77℉)



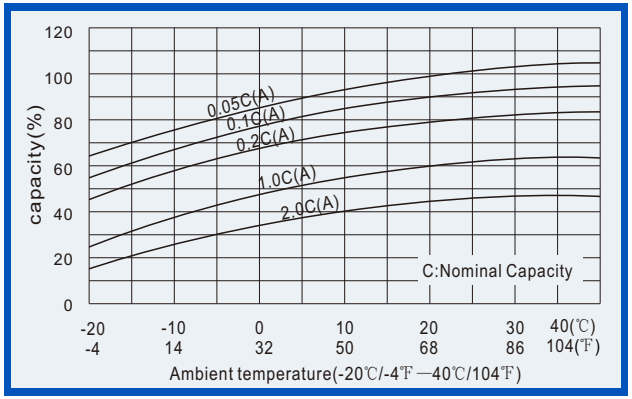
Charge characteristics (25℃,77℉)



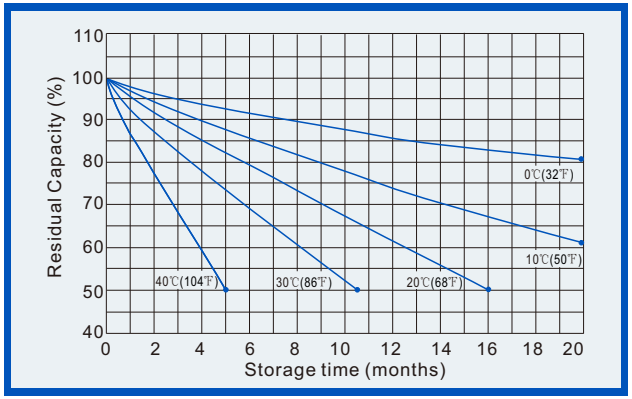
Life characteristics of Cyclic Use (25℃,77℉)



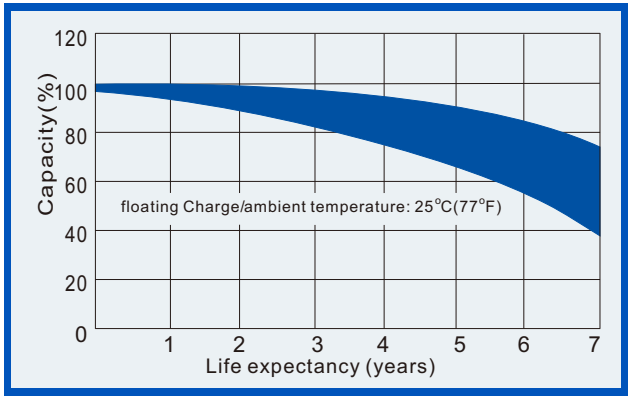
Effect of Temperature on capacity



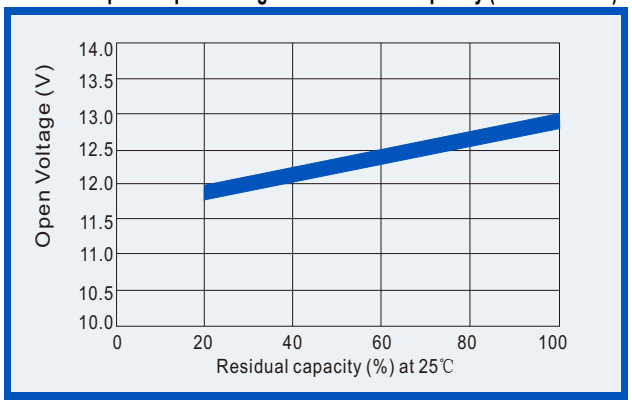
Self-discharge characteristics



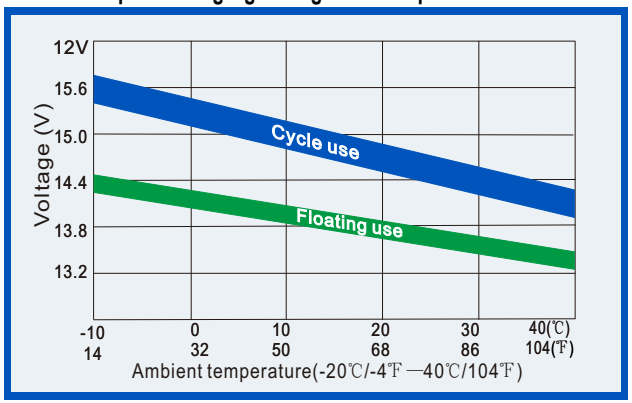
Life Characteristics of standby use (25℃,77℉)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life