

General features for MPPV Series battery (OPzV)

- * Tubular positive plate; separator with the combined application of porous rubber and porous PVC, separator is with a high porosity & good corrosion resistance. Gelled electrolyte technology.
- * Computer designed lead, calcium tin alloy grid for high power density.
- * Long service life, maintenance-free during the whole service life.
- * Alloy (no antimony) and internal oxygen recombination ensure low gassing.
- * High cyclic ability, no internal short circuits in the GEL structure.
- * Easy to move and handle, easy using cable connectors or copper connectors in the battery connection..



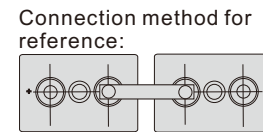
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MPPV2-150 (2V150Ah)

Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		150 Ah
Dimensions (±3mm)	Total Height (Include terminal)	390mm (15.3inches)
	Height	355mm (13.9inches)
	Length	103mm (4.05inches)
	Width	206mm (8.11inches)
Approx weight (±5%)		15.0Kg (33.1lbs)

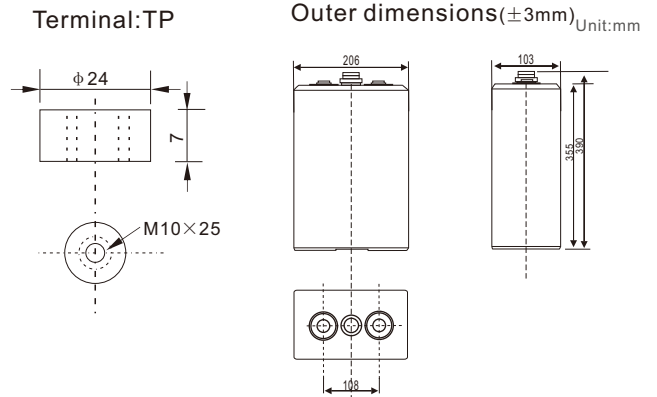
Battery picture and construction



Battery Construction

Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Gelled acid	PVC	Rubber	Copper

Outer dimension and terminal



Characteristics

Capacity 25°C(77°F)	10 hour rate(15A, 1.8V)	150Ah
	3 hour rate(40A, 1.75V)	120Ah
	1 hour rate(79A, 1.75V)	79Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 1.5mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	85%
Remaining capacity Self-Discharge At 25°C(77°F)	-15°C (5°F)	65%
	Capacity after 3 month storage	94%
	Capacity after 6 month storage	88%
	Capacity after 12 month storage	75%
Terminal type	TP (copper)	
Max. Discharge current 25°C/(77°F)	500A (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	-15°C ~50°C (-4°F ~122°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 30A Voltage 2.35-2.45V Temperature compensation:-4mV/°C
	Standby use	Voltage 2.25-2.30V Temperature compensation:-3mV/°C

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

Unit:A

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

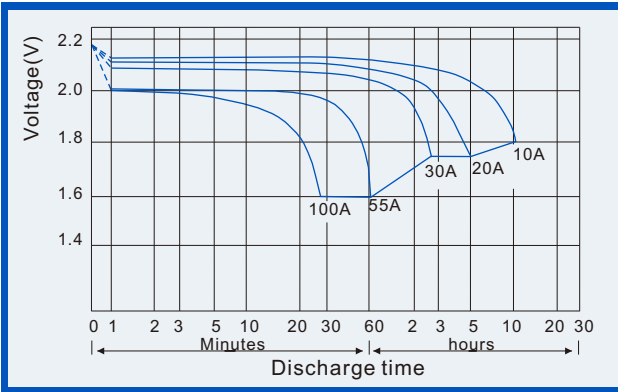
Unit:watts

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

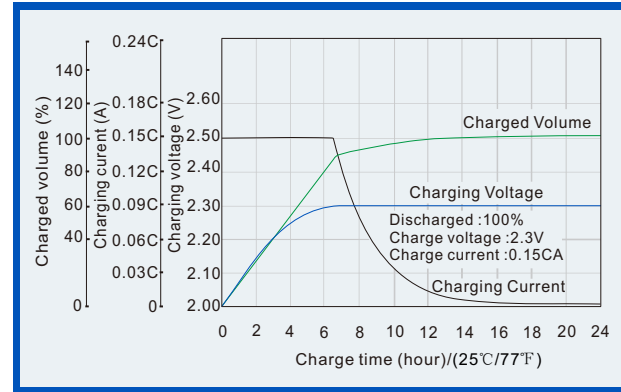
Time		30min	1h	2h	3h	5h	6h	8h	10h	20h	24h	48h	100h
		1.65V	A	131	86	57	44	31	25	20	18	9	7
	W	274	176	126	89	57	55	45	34	17	15	10	5.3
1.70V	A	127	83	53	42	29	23	19	17	9	7	4	2.0
	W	257	171	124	86	56	53	44	33	17	15	10	5.2
1.75V	A	120	79	50	40	27	22	18	16	9	7	4	2.0
	W	235	167	121	83	56	52	42	32	17	15	10	5.2
1.80V	A	116	75	48	38	26	21	18	15	8	7	4	1.9
	W	209	156	118	80	54	50	41	31	17	15	10	5.2
1.85V	A	109	71	45	35	25	20	17	14	8	7	4	1.9
	W	182	152	112	76	52	47	39	29	16	14	10	5.2

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

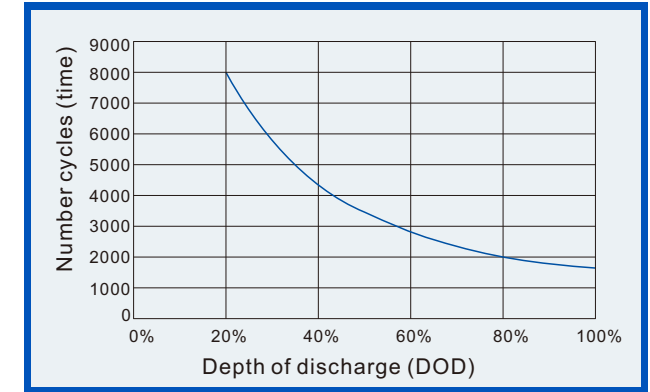
Discharge characteristics (25°C, 77°F)



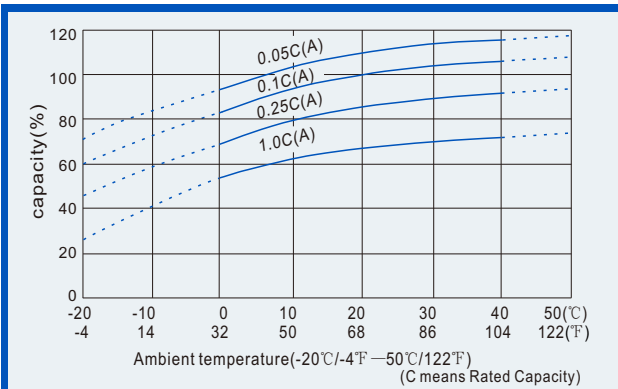
Charge characteristics (25°C, 77°F)



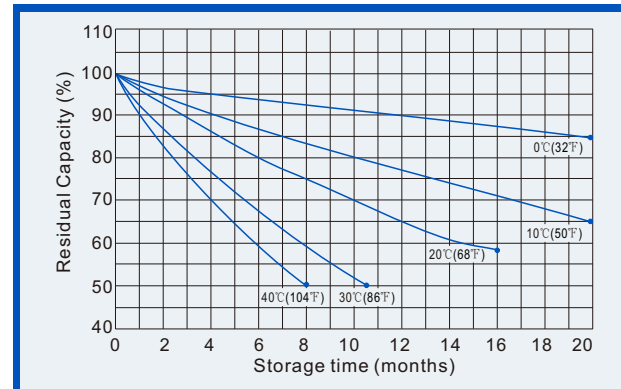
Life characteristics of Cyclic Use (25°C, 77°F)



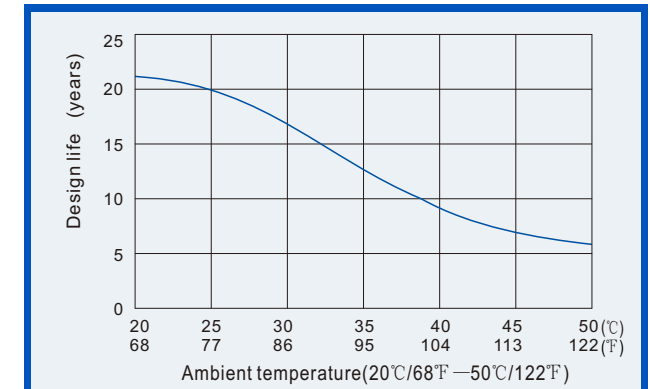
Effect of Temperature on capacity



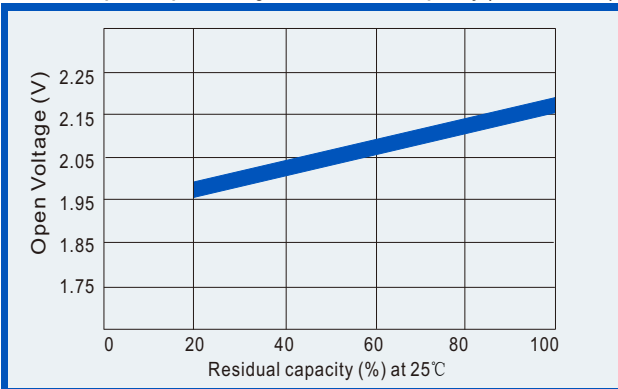
Self-discharge characteristics (with full charging)



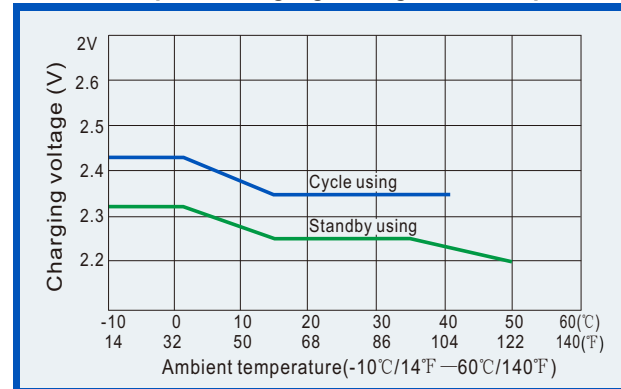
Relationships for design life and temperature



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Effect of temperature on capacity

