

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..



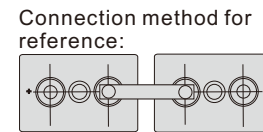
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MPPV2-420 (2V420Ah)

Specifications

Nominal Voltage		2 V
Rated capacity (10 hour rate)		420 Ah
Dimensions (±3mm)	Total Height (Include terminal)	506mm (19.9inches)
	Height	470mm (18.5inches)
	Length	145mm (5.71inches)
	Width	206mm (8.11inches)
Approx weight (±5%)		32.0Kg (70.5lbs)

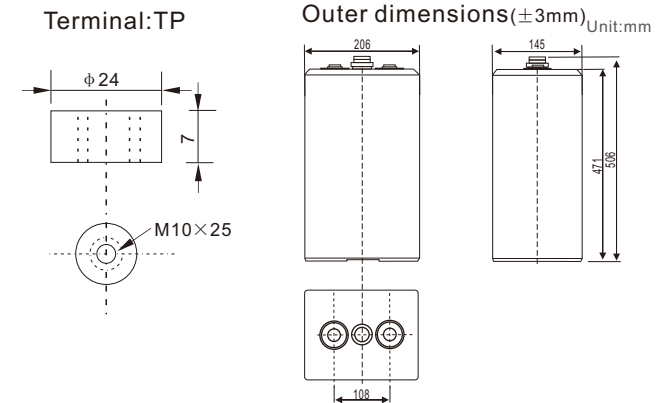
Battery picture and construction



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(42A, 1.8V) 3 hour rate(111A, 1.75V) 1 hour rate(250A, 1.60V)	420Ah 333Ah 250Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 0.7 mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F)	103% 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	94% 88% 75%
Terminal type	TP (copper)	
Max. Discharge current 25°C/(77°F)	2100A (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 105 A Voltage 2.35-2.45V Temperature compensation:-4mV/°C Voltage 2.25-2.30V Temperature compensation:-3mV/°C

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

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

Unit:A

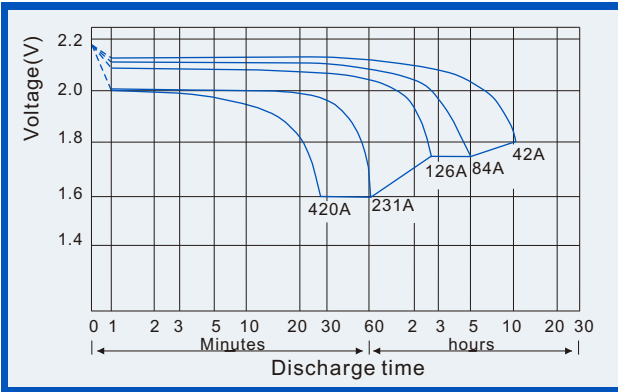
Unit:watts

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

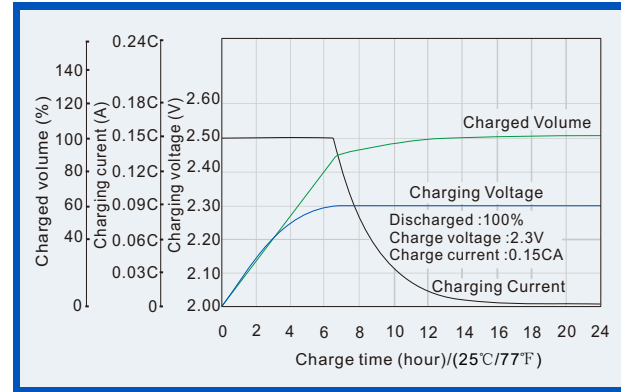
Time		30min	1h	2h	3h	5h	6h	8h	10h	20h	24h	48h	100h
1.65V	A	365	242	158	124	85	69	56	49	25	21	11	6
	W	767	494	354	248	160	153	127	95	48	43	28	15
1.70V	A	355	231	149	117	81	65	54	46	25	21	11	6
	W	720	479	347	239	158	148	122	92	47	42	28	15
1.75V	A	336	221	141	111	76	62	51	44	24	21	11	5
	W	659	466	337	232	155	144	118	88	47	42	28	15
1.80V	A	323	210	133	105	71	59	49	42	23	21	11	5
	W	586	437	330	223	151	139	113	86	46	42	28	14
1.85V	A	305	200	127	99	69	56	47	40	21	20	11	5
	W	508	426	313	211	145	132	109	82	44	40	28	14

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

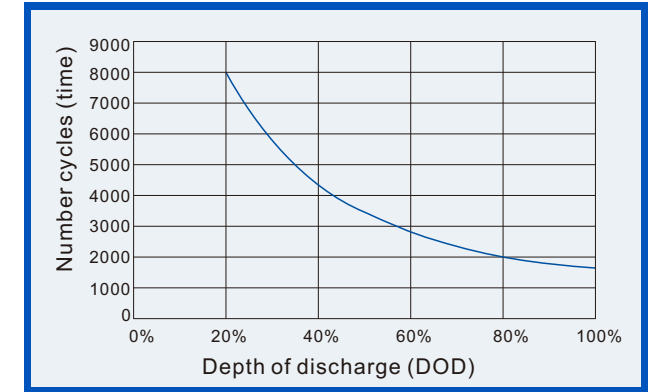
Discharge characteristics (25°C, 77°F)



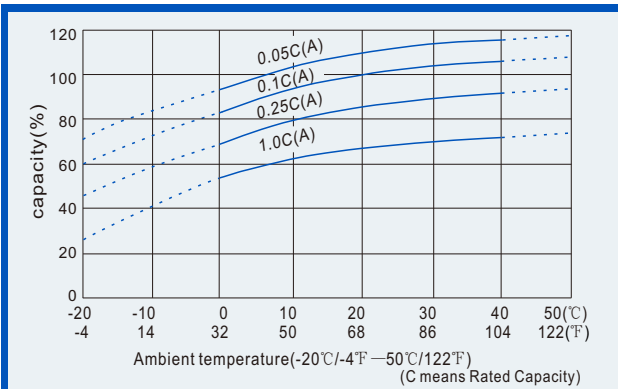
Charge characteristics (25°C, 77°F)



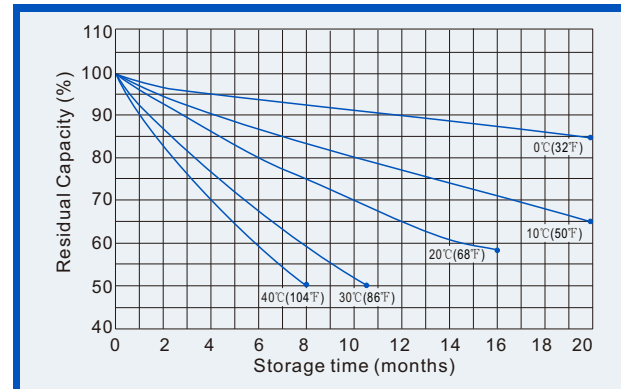
Life characteristics of Cyclic Use (25°C, 77°F)



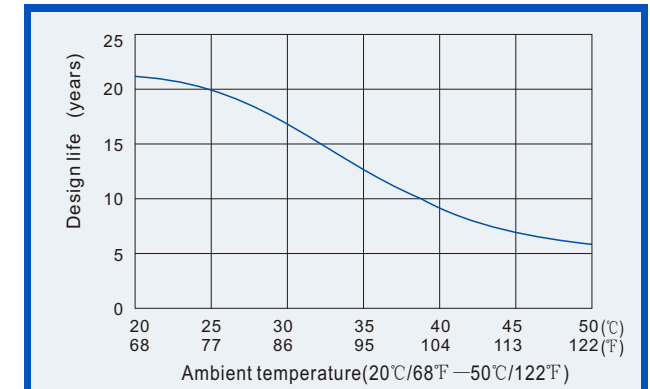
Effect of Temperature on capacity



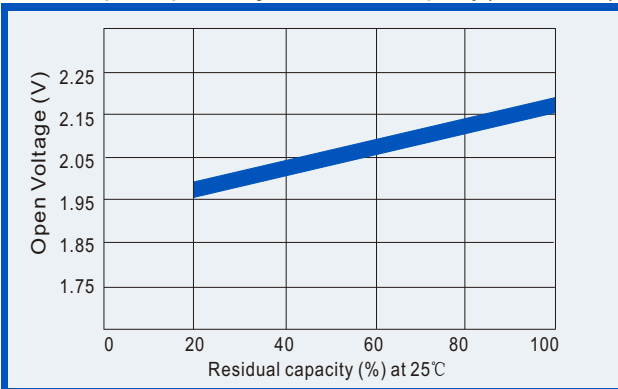
Self-discharge characteristics (with full charging)



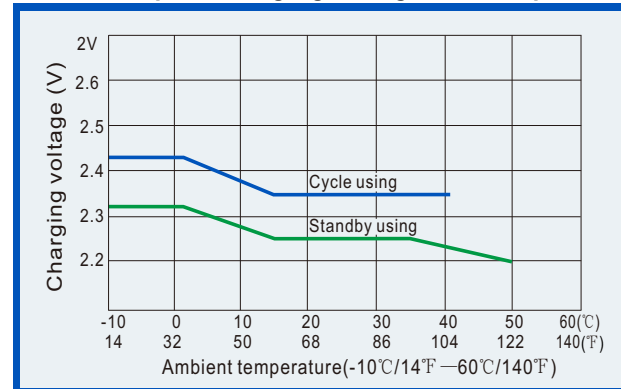
Relationships for design life and temperature



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Effect of temperature on capacity

