

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..



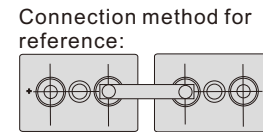
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MPPV2-420 (2V420Ah)

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%)	30.8Kg (67.8lbs)	

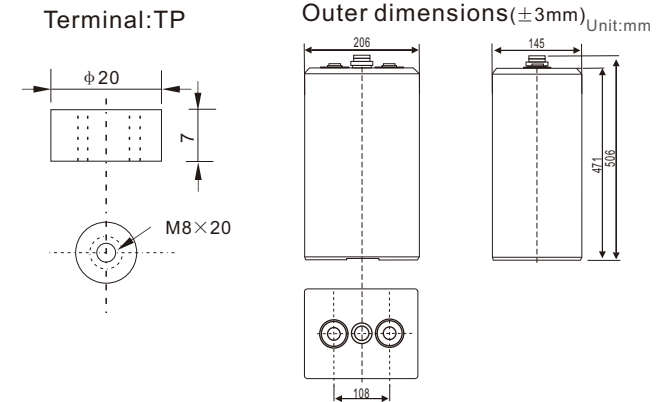
Battery picture and construction



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(109A,1.75V) 1 hour rate(235A,1.60V)	420Ah 327Ah 235Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 0.7 mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	103%
	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	94%
	Capacity after 6 month storage	88%
	Capacity after 12 month storage	75%
Terminal type	TP (copper)	
Max. Discharge current 25°C/(77°F)	2100A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77□ ±9□)	
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 105A Voltage 2.40-2.50V Temperature compensation:-4mV/°C
	Standby use	Voltage 2.25-2.30V Temperature compensation:-3mV/°C

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

Unit:A

Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.65V	350	234	144	111	89.5	76.4	65.5	51.7	42.8	22.6
1.70V	339	230	143	110	88.6	75.6	65.1	51.2	42.4	22.6
1.75V	331	225	141	109	88.2	75.2	64.7	50.8	42.4	22.4
1.80V	319	218	137	106	85.7	73.1	62.6	49.1	42.0	22.3
1.85V	303	207	130	100	81.5	69.3	59.6	46.6	39.0	21.2

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

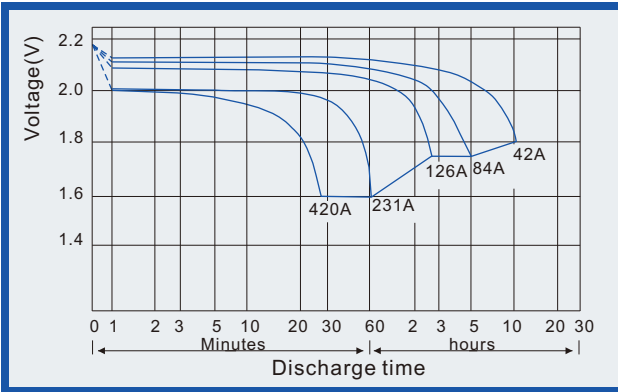
Constant power discharge (25°C , 77 °F)

Unit:watts

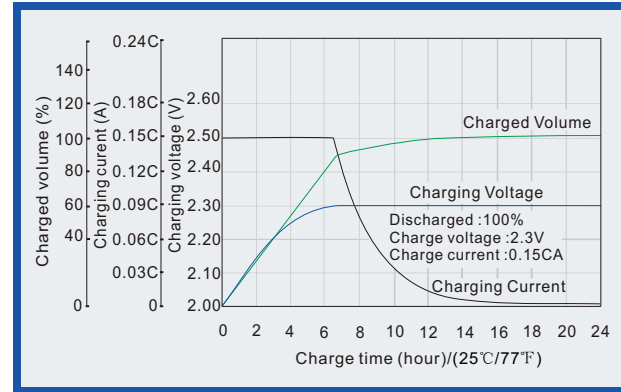
Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.65V	654	448	278	217	175	150	129	102	84.8	45.4
1.70V	634	437	276	215	174	149	129	101	84.8	44.9
1.75V	619	428	271	214	173	148	127	101	84.0	44.9
1.80V	596	415	265	207	168	144	123	97.4	83.6	44.5
1.85V	566	394	252	197	159	137	117	92.4	79.4	42.3

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

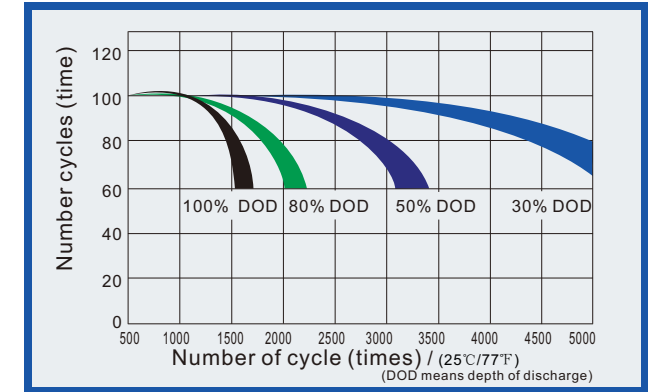
Discharge characteristics (25°C, 77°F)



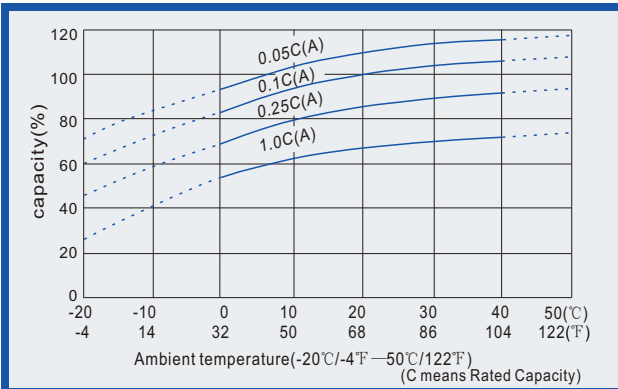
Charge characteristics (25°C, 77°F)



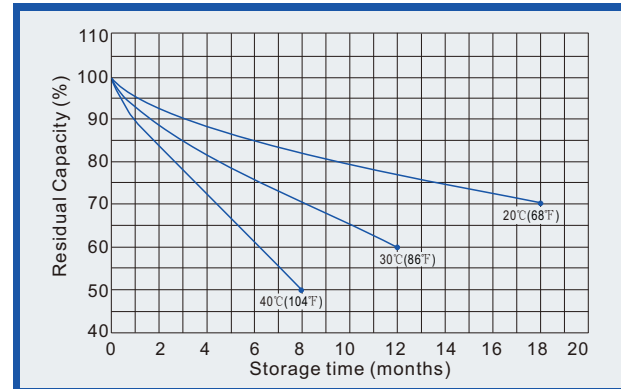
Life characteristics of Cyclic Use (25°C, 77°F)



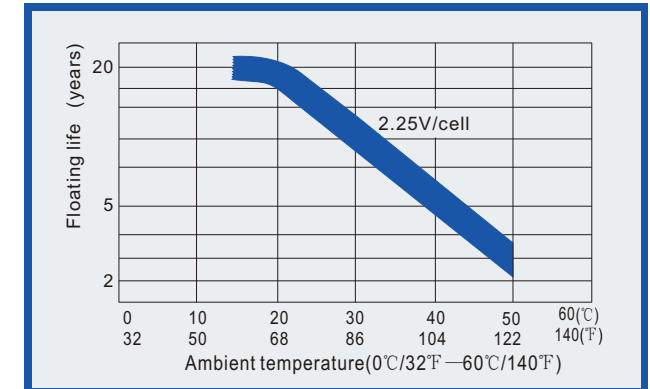
Effect of Temperature on capacity



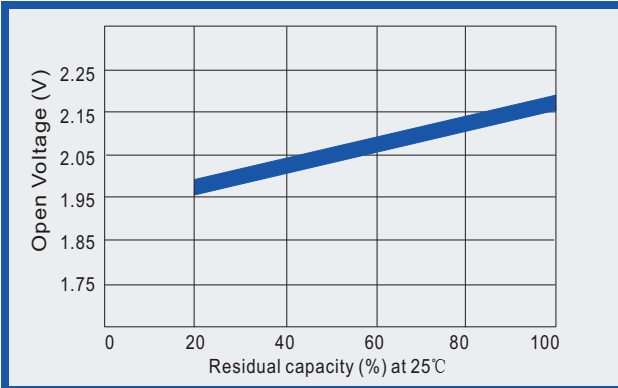
Self-discharge characteristics (with full charging)



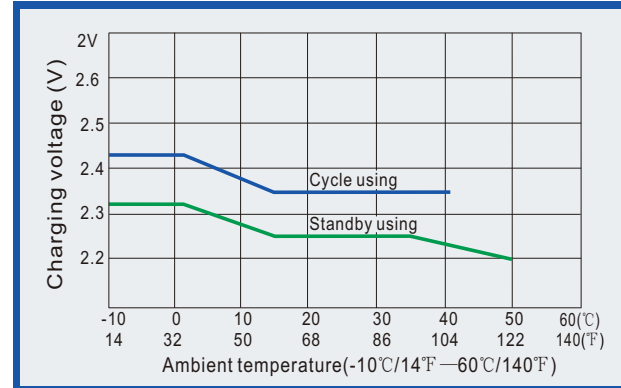
Relationships for floating life and temperature



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Effect of temperature on capacity

