NPP Power Co.,Ltd.

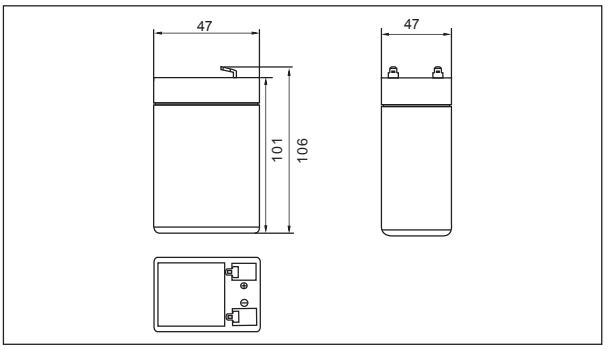
NP4-4.5Ah 4V4.5Ah



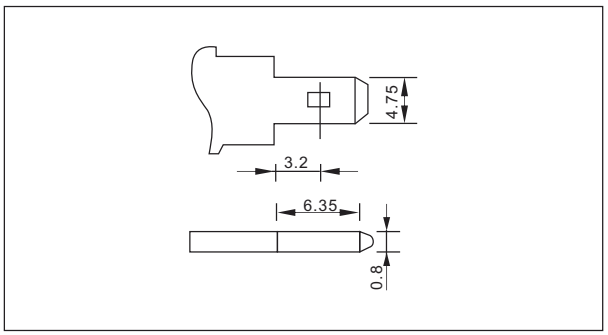
Specifications

Nominal Voltage		4V
Rated capacity (20 hour rate)		4.5Ah
Dimensions	Length	47±1mm(1.85inch)
	Width	47±1mm(1.85inch)
	Height	101±1mm(3.98inch)
	Total Height	106±1mm(4.17inch)
Approx. Weight		0.52kg(1.15lbs)±5%

Outer dimensions (mm)



Terminal Type (mm)



Characteristics

Capacity (25℃)	20HR(3.50V)	4.5Ah
	10HR(3.50V)	4.2Ah
	1HR(3.20V)	2.7Ah
Terminal type		T1
Internal resistance (Fully charged,25℃)		Approx.15m Ω
Capacity affected by temperature (20HR)	40℃	102%
	25℃	100%
	0℃	85%
	-15℃	65%
Self-discharge (25℃)	3month	Remaining Capacity:91%
	6month	Remaining Capacity:82%
	12month	Remaining Capacity:65%
Nominal operating temperature		25℃ ±3℃(77℉ ±5℉)
Operating temperature range	Discharge	-15℃~50℃(5℉~122℉)
	Charge	-10℃~50℃(14℉~122℉)
	Storage	-20℃~50℃(-4℉~122℉)
Float charging voltage(25℃)		4.50 to 4.60V Temperature compensation: -6mV/℃
Cyclic charging voltage(25℃)		4.80 to 5.00V Temperature compensation: -10mV/℃
Maximum charging current		1.35A
Maximum discharge current		68A(5 sec.)
Designed floating life(20℃)		5 years

Construction

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

Constant Current Discharge Characteristics Unit:A(25℃,77℉)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
4.80V	17.2	10.9	8.51	4.79	2.95	1.61	1.12	0.92	0.78	0.43	0.23
4.95V	16.7	10.6	8.30	4.70	2.90	1.60	1.11	0.92	0.78	0.42	0.23
5.10V	16.0	10.1	7.99	4.55	2.83	1.59	1.10	0.91	0.77	0.42	0.23
5.25V	15.3	9.69	7.72	4.44	2.77	1.56	1.09	0.90	0.77	0.42	0.23
5.40V	14.4	9.15	7.31	4.28	2.69	1.52	1.06	0.88	0.75	0.41	0.22

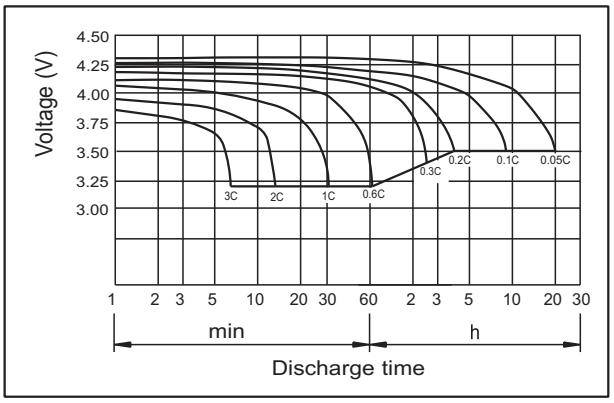
Constant Power Discharge Characteristics Unit:W(25℃,77℉)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
4.80V	63.9	40.9	32.3	18.3	11.4	6.29	4.42	3.66	3.12	1.70	0.91
4.95V	62.0	39.7	31.5	17.9	11.2	6.25	4.39	3.64	3.11	1.70	0.91
5.10V	59.5	38.1	30.4	17.4	10.9	6.20	4.36	3.62	3.08	1.69	0.91
5.25V	56.9	36.4	29.3	17.0	10.7	6.10	4.33	3.59	3.06	1.68	0.90
5.40V	53.7	34.4	27.8	16.3	10.4	5.95	4.20	3.48	2.97	1.65	0.88

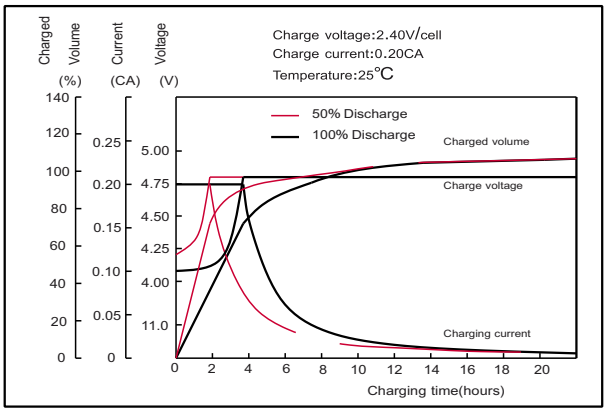
Note: The above characteristics data can be obtained within three charge or discharge cycles.

NP4-4.5Ah 4V4.5Ah

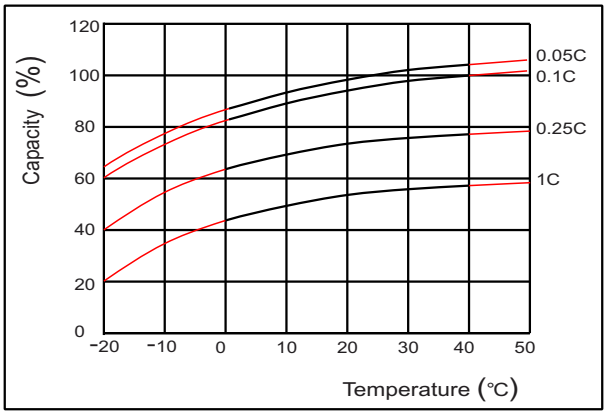
Discharge characteristics(25°C)



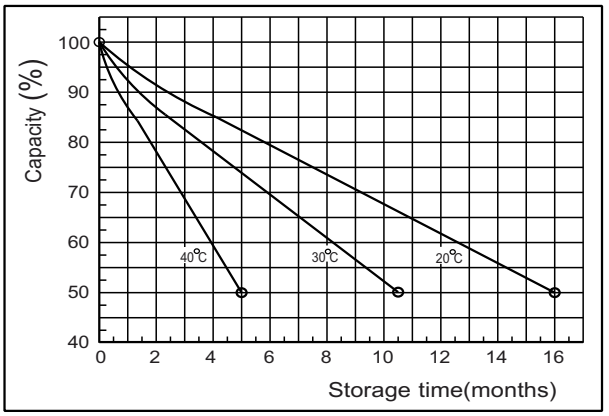
Charging characteristics (25°C)



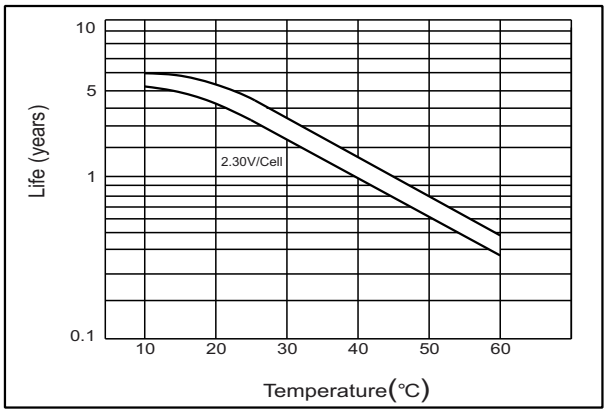
Effect of temperature on capacity



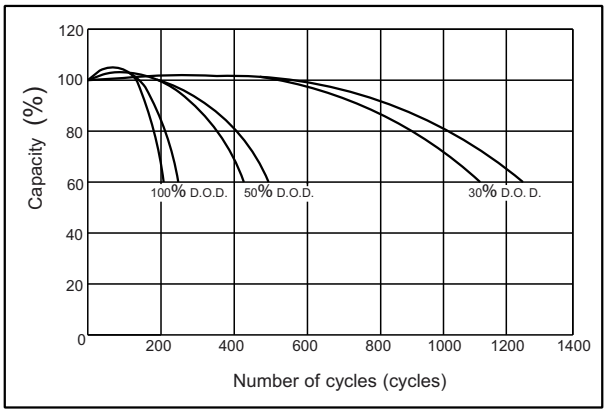
Self-discharge characteristics



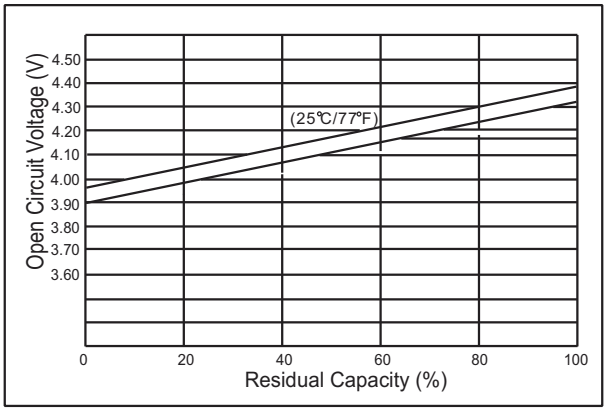
Floating life on temperature



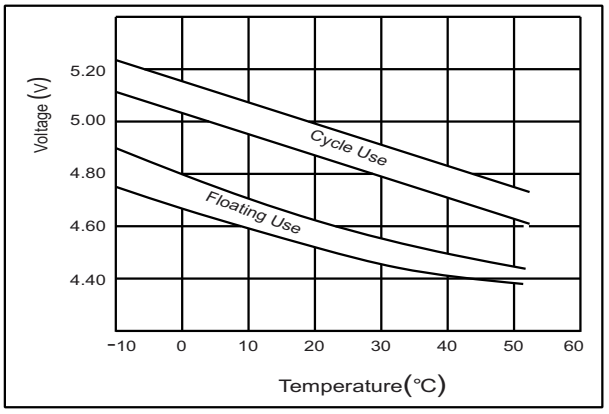
Cycle life on D.O.D(25℃)



The relationship for OCV and Capacity (25℃)



The relationship for Charging voltage and Temperature



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