



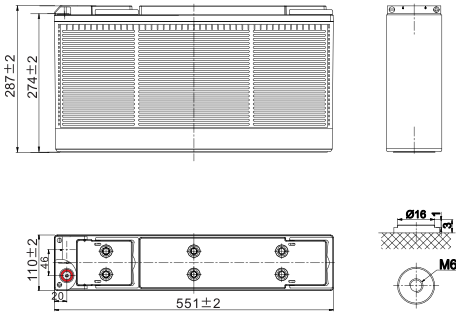
OPzV TUBULAR GEL BATTERIES

OPzV100-12



OPzV100-12 (12V 100Ah)

LAYOUT



General Features

- ✓ 20 years design life(20°C)
- ✓ Better recovery performance
- ✓ Wide working temperature range (-20~55)°C
- ✓ No electrolyte stratification provides longer service life
- ✓ High recombination efficient
- ✓ Build in copper core based in lead will carry large current
- ✓ Separator imported form AMER-SIL high porosity. PVC-SiO₂ and low resistance
- ✓ Pasted negative plate special grid design increase the active material. Availability large current discharge and charge ability
- ✓ Tubuler type positive plate (polyester tube) prevent the active material from falling. Muti metal alloy pressed positive grid increase the anti corrosion ability and service life

Applications

- ✓ Green energy systems (solar, wind, hydro, etc)
- ✓ Telecommunications installations
- ✓ Solar power stations
- ✓ Alarm installations
- ✓ Railway crossing
- ✓ Street lightening
- ✓ Pump systems
- ✓ Signal station
- ✓ Street signs
- ✓ Traffic lights
- ✓ Lawn lamp

Standards

- ✓ ACC. to IEC 60896, IEC 61427, DIN 40742 standards
- ✓ UL, CE Certified
- ✓ Manufactured by Starmax, ISO 45001, ISO 9001 and ISO 14001 certified production facilities



SPECIFICATIONS

Rated Voltage	12V	
Nominal Capacity	C ₁₀ , 1.80V/cell	
Dimensions	Length	551mm(21.69 in.)
	Width	110mm(4.33 in.)
	Container height	274mm(10.79 in.)
	Total height	287mm(11.30 in.)
Approx. weight	41.1Kg (90.6 lbs)	
Terminal	M8	
Container material	ABS	
Rated capacity (25°C)	120.0 Ah	(100hr,1.20A,1.80V/cell)
	100.0 Ah	(10hr,10.0A,1.80V/cell)
	87.5 Ah	(5hr,17.5A,1.75V/cell)
	75.6Ah	(3hr,25.2A,1.75V/cell)
	59.3 Ah	(1hr,59.3A,1.67V/cell)
Max. discharge current	1000A	
Internal resistance (25°C)	Approx. 12 mΩ	
Operating temp. range	Discharge	-20°C~55°C (-4°F~131°F)
	Charge	0°C~40°C (32°F~104°F)
	Storage	-20°C~50°C (-4°F~122°F)
Nominal operating temp. range	25±3°C (77±5°F)	
Cycle Use	30.0A	
Effect of temp. to Capacity	Float	13.5V
	Temp. Coefficient	-3mV/cell/°C
	Cycle(Equalization)	14.1~14.4V
Effect of temp. to Capacity	40°C (104°F)	106%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self discharge	≤3% per month at 25°C	

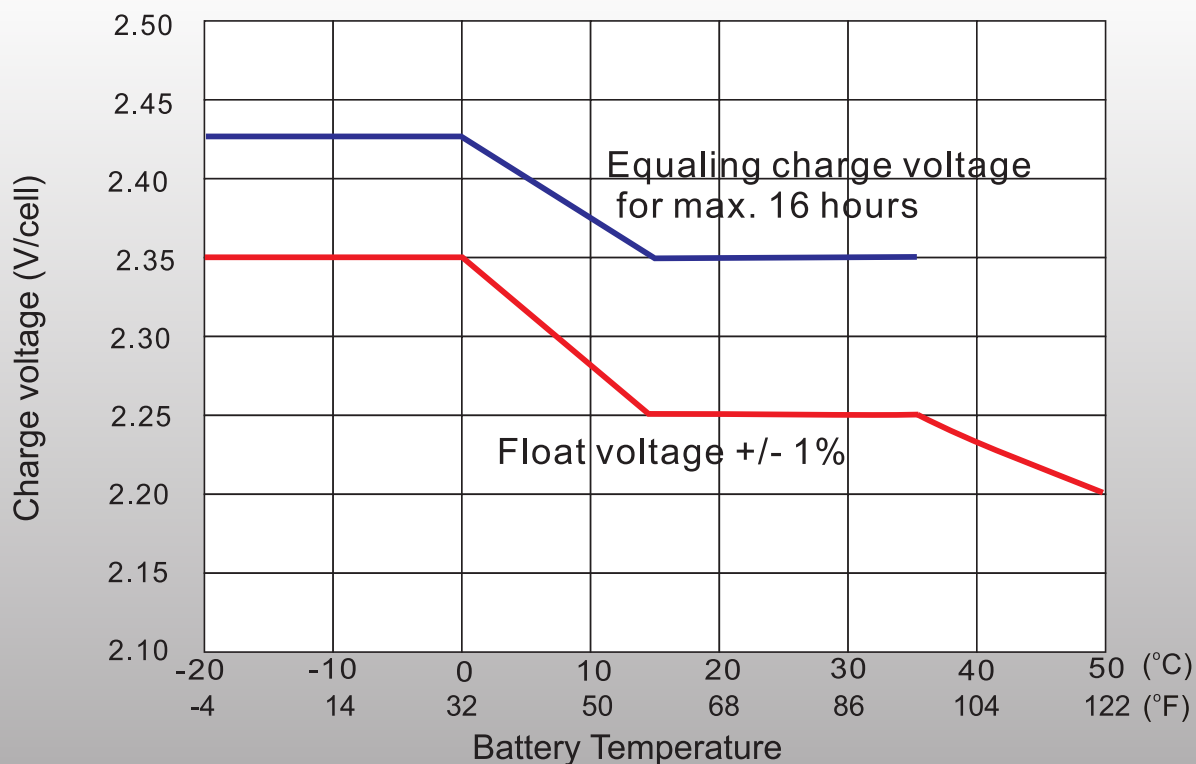
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	1h	2h	3h	4h	5h	8h	10h	20h	24h	48h	72h	48h	72h
1.85V/cell	46.5	29.5	22.5	18.6	16.1	11.3	9.57	5.12	4.55	2.34	1.58	1.17	1.07
1.80V/cell	51.0	31.9	24.1	19.7	16.9	11.8	10.0	5.35	4.62	2.37	1.62	1.20	1.09
1.75V/cell	54.3	33.5	25.2	20.7	17.5	12.1	10.2	5.46	4.71	2.41	1.65	1.23	1.11
1.70V/cell	57.4	34.7	26.2	21.4	18.0	12.3	10.3	5.53	4.78	2.46	1.71	1.25	1.14
1.67V/cell	59.3	35.9	27.1	21.9	18.4	12.5	10.5	5.59	4.87	2.53	1.75	1.28	1.16
1.60V/cell	61.1	37.1	27.7	22.4	18.8	12.7	10.7	5.65	4.97	2.57	1.78	1.32	1.19

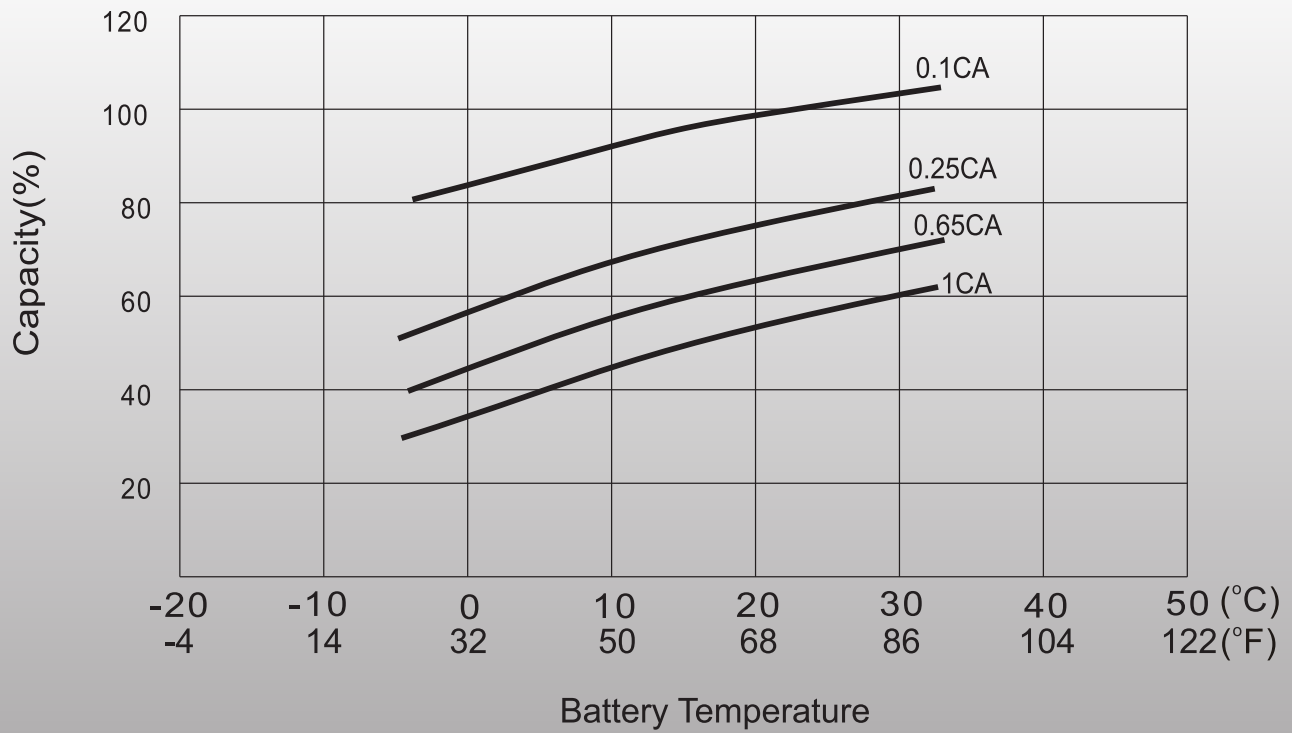
Constant Power Discharge (Watts/Cell) at 25°C (77°F)

F.V/Time	1h	2h	3h	4h	5h	8h	10h	20h	24h	48h	72h	48h	72h
1.85V/cell	90.5	57.6	44.0	36.6	31.7	22.4	19.1	10.2	9.10	4.68	3.17	2.35	2.15
1.80V/cell	98.8	62.1	47.0	38.7	33.2	23.4	19.9	10.7	9.22	4.73	3.24	2.41	2.19
1.75V/cell	104.6	65.0	49.2	40.4	34.4	24.0	20.3	10.9	9.39	4.82	3.31	2.46	2.23
1.70V/cell	110.0	67.0	50.8	41.6	35.2	24.4	20.5	11.0	9.52	4.91	3.42	2.51	2.29
1.67V/cell	113.0	68.9	52.4	42.5	35.9	24.7	20.8	11.1	9.70	5.05	3.49	2.57	2.33
1.60V/cell	115.8	70.9	53.3	43.3	36.6	25.1	21.1	11.2	9.87	5.11	3.56	2.64	2.39

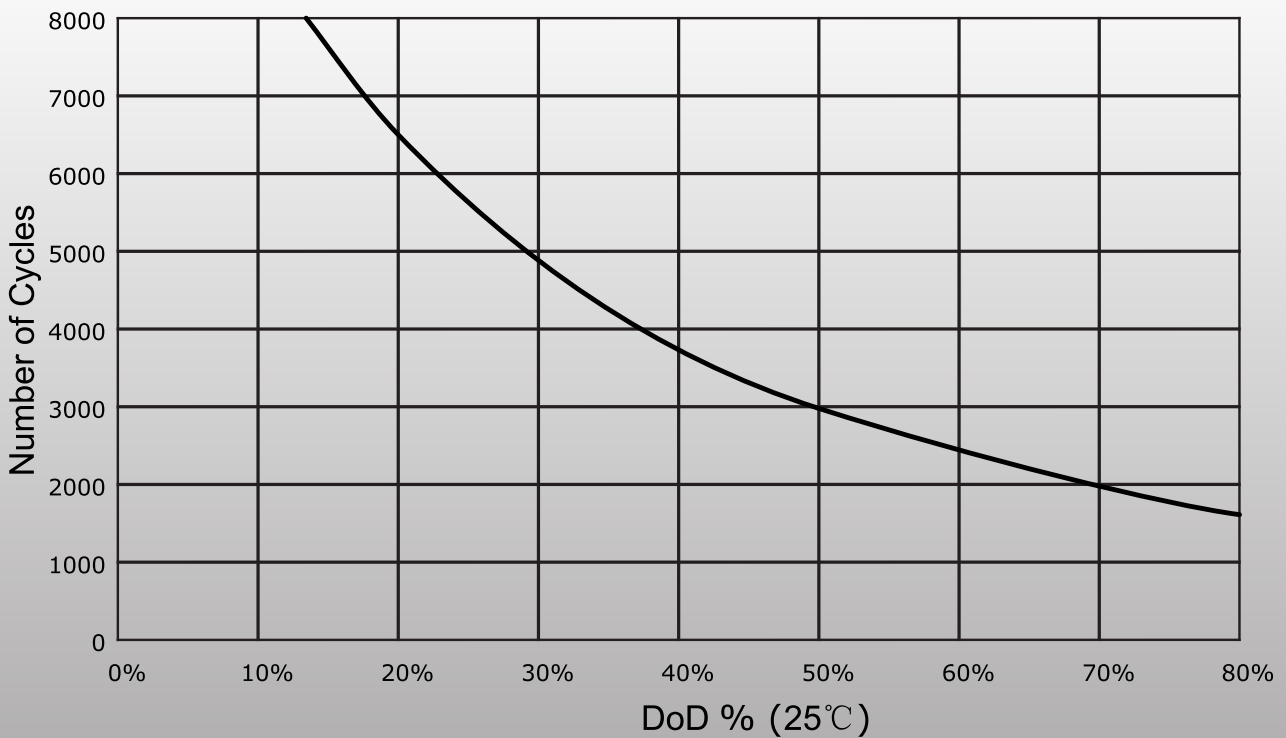
Charge voltage vs Ambient Temp. Curve



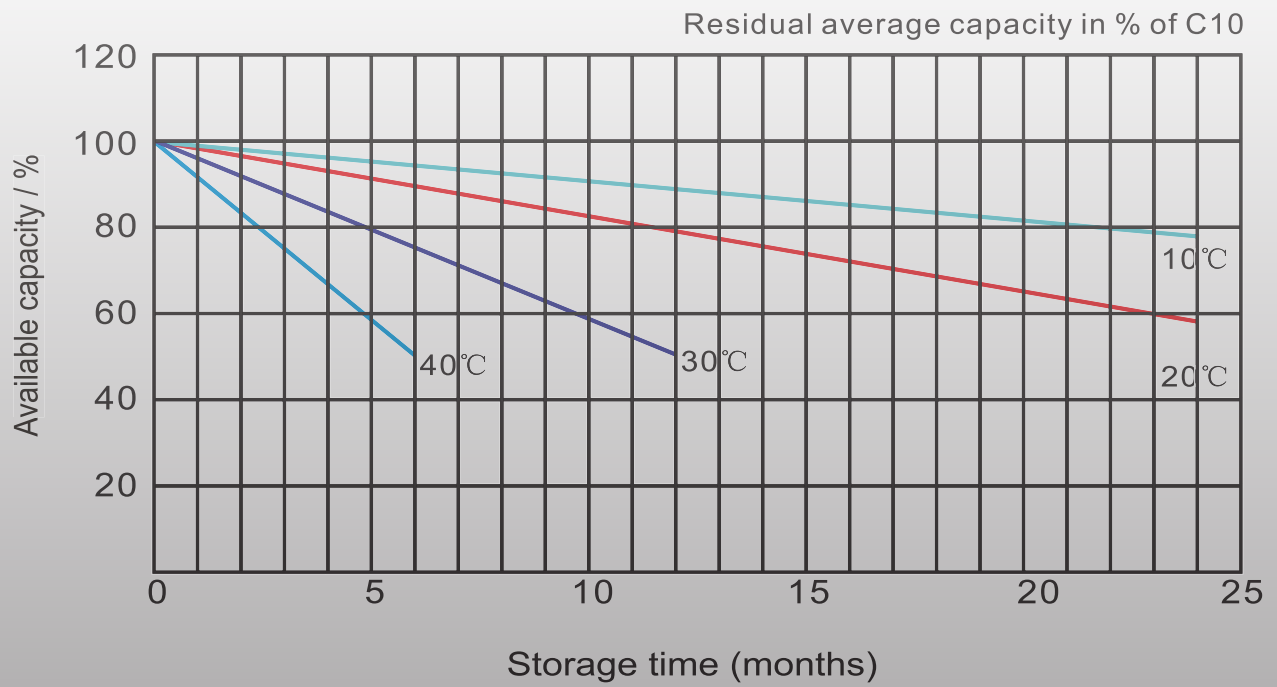
Temperature Effects in relation to Battery Capacity



Cycle Life in Relation to DOD



General Relation of Capacity vs Storage Time





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