

SPA 12 - 2.3 | VRLA Battery



Specifications

Nominal Voltage	12 V	
Number of cells	6	
Design Life	10 years	
Dimensions	Length	178 mm
	Width	35 mm
	Height	61 mm
	Total Height	67 mm
Approx. Weight	0.80 kg	
Nominal Capacity (25°C)	20 hours rate (0.115 A, 10.5 V)	2.30 Ah
	10 hours rate (0.210 A, 10.5 V)	2.10 Ah
	5 hours rate (0.390 A, 10.5 V)	1.95 Ah
	1 hour rate (1.500 A, 9.6 V)	1.50 Ah
Max. Discharge Current (25°C)	34.5 A (5s)	
Max. Charging Current (25°C)	0.69 A	
Internal Resistance	60 mOhms	
Fully Charged battery (25°C)		
Self-Discharge (25°C)	3% of capacity declined per month (average)	
	Discharge	-15~50°C
	Charge	-10~50°C
Operating Temperature Range	Storage : -20~50°C	
Short Circuit Current	74.5 A	
Charge Methods:	Cycle use	2.40-2.45 Vpc
	Temperature compensation	-30 mV/°C
Constant Voltage Charge (25°C)	Standby use	2.25-2.30 Vpc
	Temperature compensation	-18 mV/°C

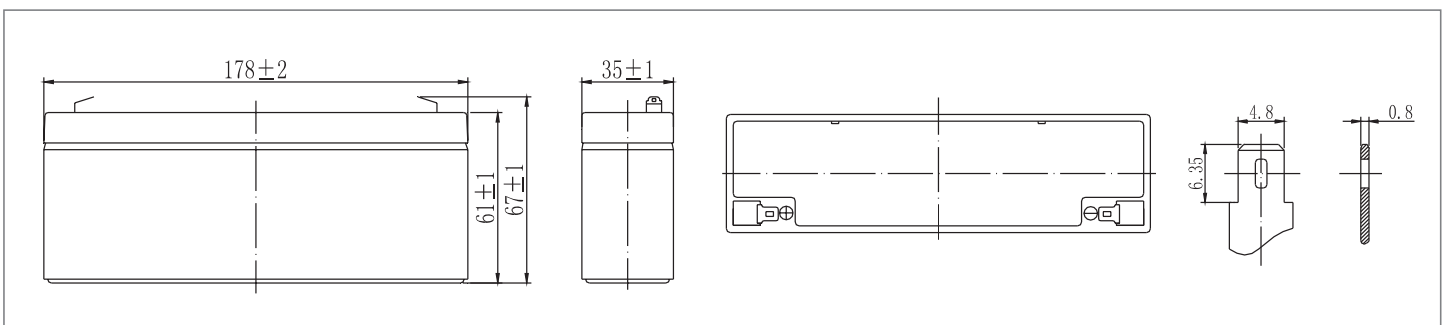
Applications

- Uninterruptible Power Supplies (UPS)
- Electric Power Systems (EPS)
- Emergency backup power supplies
- Electronic apparatus and equipment
- Communication power supplies
- DC power supplies
- Auto control system

Battery Construction

Component	Positive Plate	Negative Plate	Container	Cover	Safety Valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

Dimensions



Constant Current Discharge (Amperes) at 25°C

End Voltage (Volts/Cell)	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	10 h	20 h
1.60 V	8.74	5.52	4.37	2.44	1.50	0.82	0.59	0.47	0.40	0.22	0.117
1.65 V	8.48	5.35	4.27	2.39	1.47	0.81	0.58	0.47	0.40	0.22	0.116
1.70 V	8.13	5.13	4.11	2.32	1.44	0.81	0.58	0.46	0.39	0.22	0.116
1.75 V	7.78	4.91	3.97	2.26	1.41	0.79	0.58	0.46	0.39	0.21	0.115
1.80 V	7.34	4.64	3.76	2.18	1.36	0.77	0.56	0.45	0.38	0.21	0.113

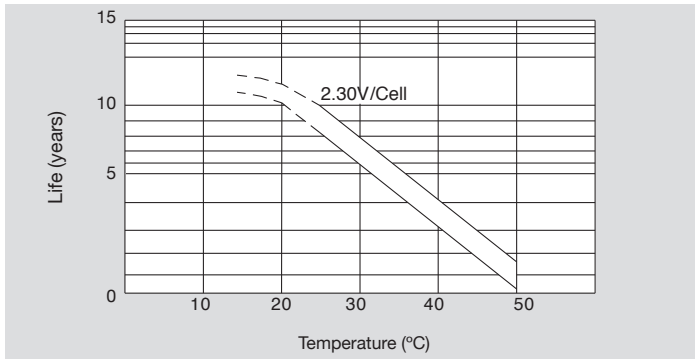
Constant Power Discharge (Watts) at 25°C

End Voltage (Volts/Cell)	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	10 h	20 h
1.60 V	97.5	62.3	49.8	27.9	17.3	9.56	6.97	5.59	4.76	2.61	1.40
1.65 V	94.6	60.4	48.6	27.4	17.1	9.50	6.93	5.56	4.73	2.60	1.40
1.70 V	90.7	57.9	46.8	26.5	16.6	9.42	6.88	5.52	4.70	2.58	1.39
1.75 V	86.8	55.4	45.2	25.9	16.3	9.28	6.83	5.48	4.67	2.57	1.38
1.80 V	81.9	52.3	42.8	24.9	15.8	9.04	6.63	5.31	4.53	2.52	1.35

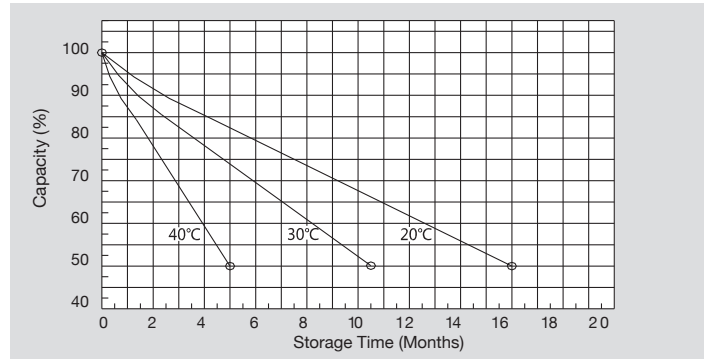
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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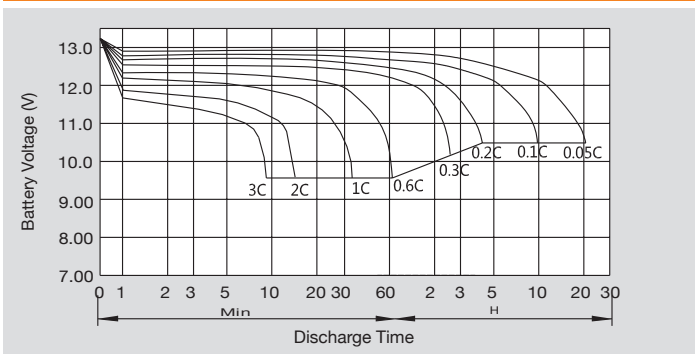
Temperature Effects on Float Life



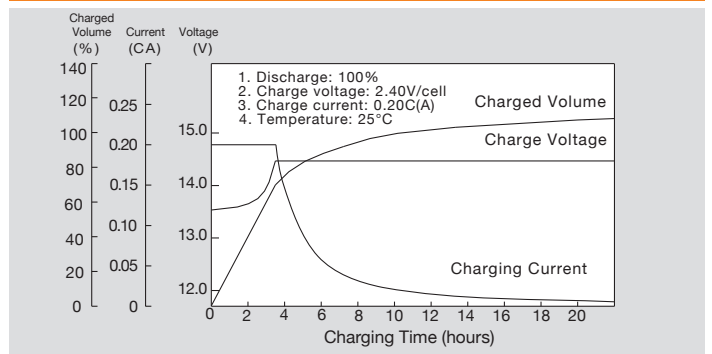
Self Discharge Characteristics



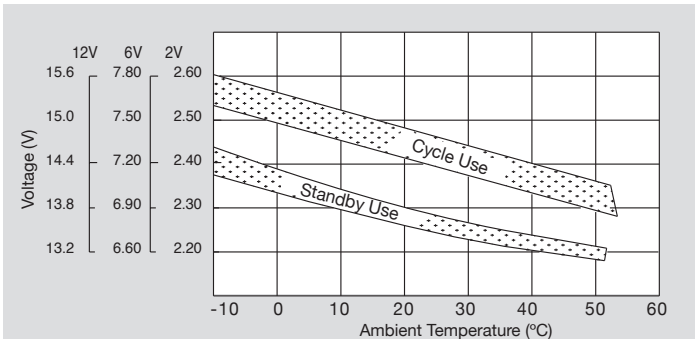
Discharge Characteristics (25°C)



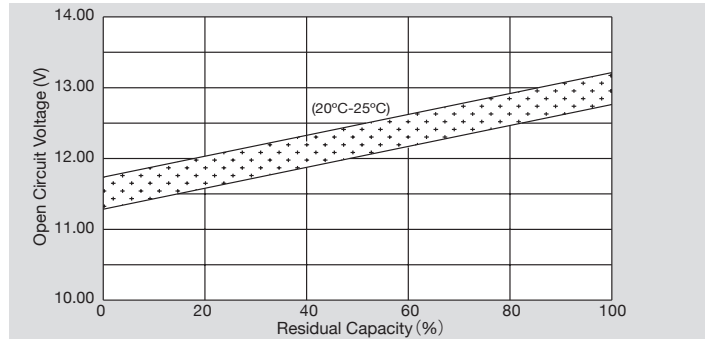
Constant Voltage Charging Characteristic 25°C



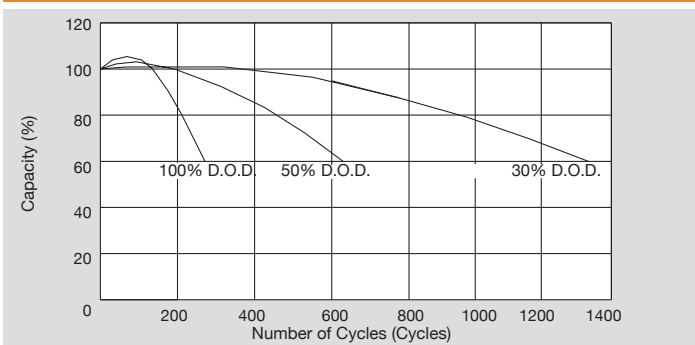
Relationship Between Charging Voltage and Temperature



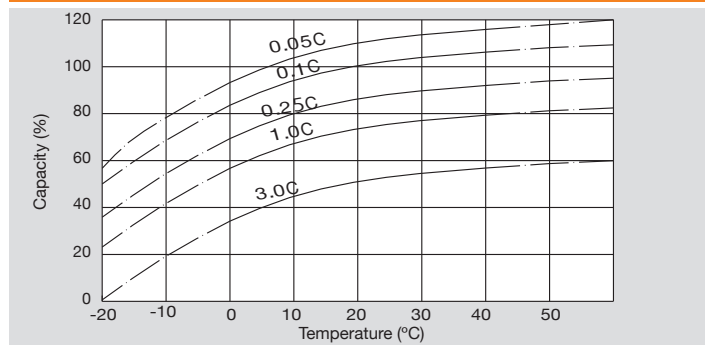
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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