

SPA 12 - 9 | VRLA Battery



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

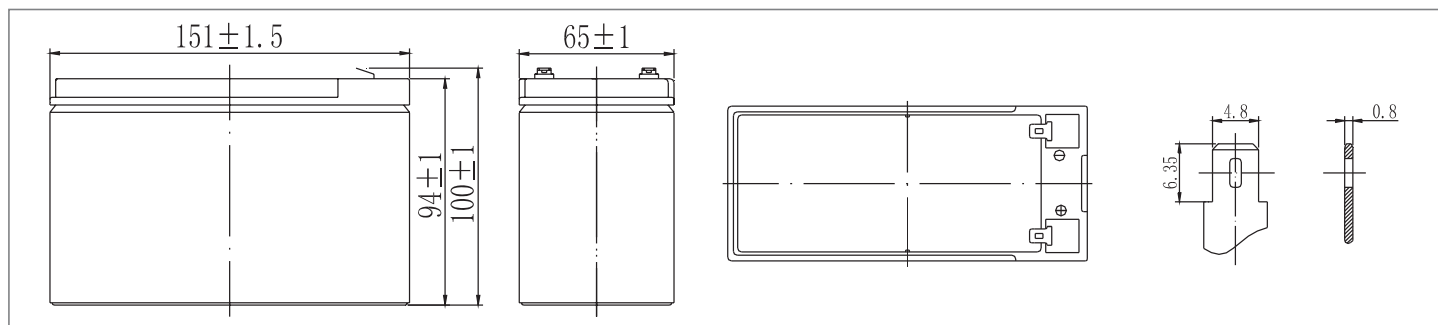
Specifications

Nominal Voltage	12 V		
Number of cells	6		
Design Life	10 years		
Dimensions	Length	151 mm	
	Width	65 mm	
	Height	94 mm	
	Total Height	100 mm	
Approx. Weight	2.35 kg		
Nominal Capacity (25°C)	20 hours rate (0.45 A, 10.5 V)	9.00 Ah	
	10 hours rate (0.84 A, 10.5 V)	8.40 Ah	
	5 hours rate (1.53 A, 10.5 V)	7.65 Ah	
	1 hour rate (5.85 A, 9.6 V)	5.85 Ah	
Max. Discharge Current (25°C)	135 A (5s)		
Max. Charging Current (25°C)	2.7 A		
Internal Resistance	19 mOhms		
Fully Charged battery (25°C)			
Self-Discharge (25°C)	3% of capacity declined per month (average)		
Operating Temperature Range	Discharge	: -15~50°C	
	Charge	: -10~50°C	
	Storage	: -20~50°C	
Short Circuit Current	292 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	

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	34.2	21.6	17.1	9.54	5.85	3.20	2.30	1.84	1.56	0.85	0.46
1.65 V	33.2	21.0	16.7	9.35	5.76	3.18	2.28	1.83	1.55	0.85	0.45
1.70 V	31.8	20.1	16.1	9.06	5.62	3.15	2.27	1.81	1.54	0.84	0.45
1.75 V	30.4	19.2	15.5	8.84	5.50	3.10	2.25	1.80	1.53	0.84	0.45
1.80 V	28.7	18.1	14.7	8.52	5.34	3.02	2.18	1.75	1.48	0.82	0.44

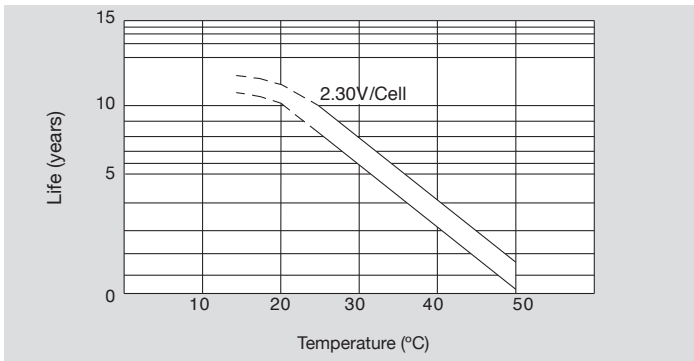
Constant Power Discharge (Watts) at 25°C

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	382	244	195	109	67.7	37.4	27.3	21.9	18.6	10.2	5.48
1.65 V	370	236	190	107	66.7	37.2	27.1	21.7	18.5	10.2	5.46
1.70 V	355	227	183	104	65.0	36.9	26.9	21.6	18.4	10.1	5.43
1.75 V	340	217	177	101	63.7	36.3	26.7	21.4	18.3	10.0	5.40
1.80 V	321	205	168	97.6	61.8	35.4	25.9	20.8	17.7	9.84	5.29

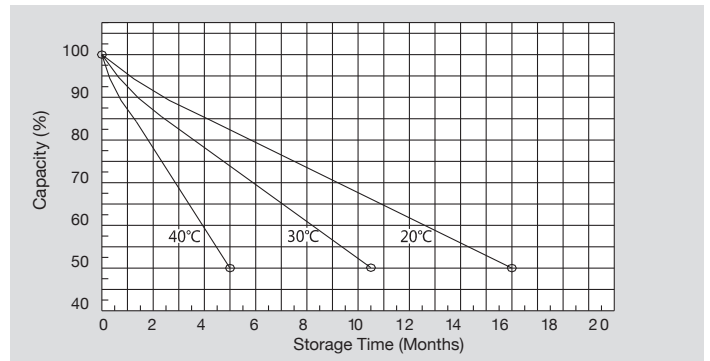
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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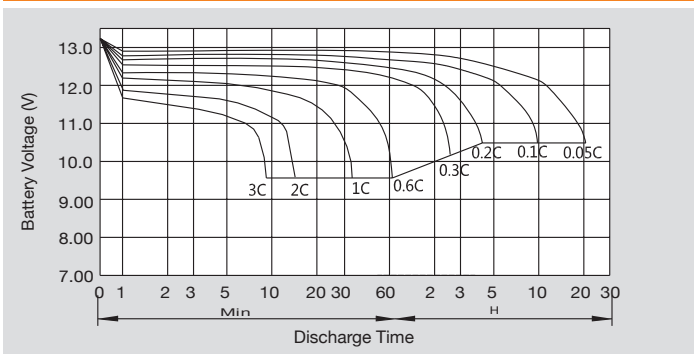
Temperature Effects on Float Life



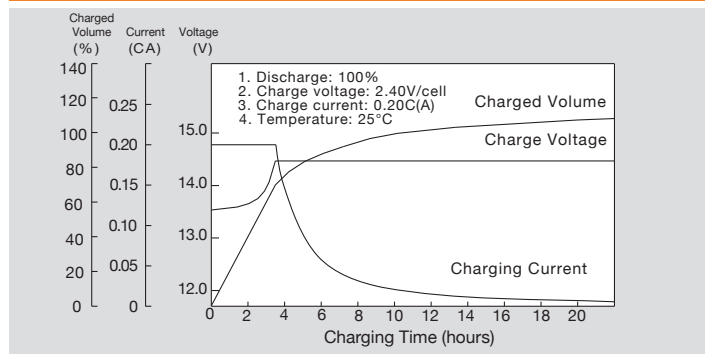
Self Discharge Characteristics



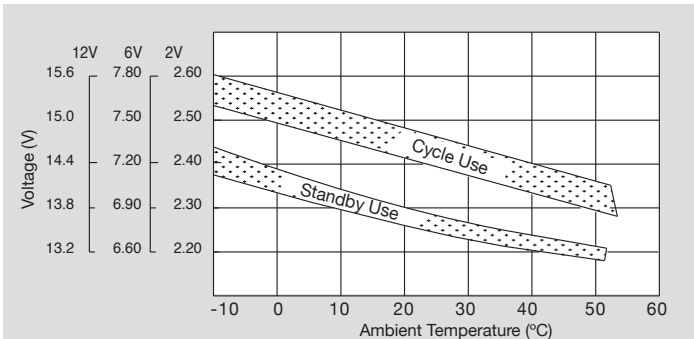
Discharge Characteristics (25°C)



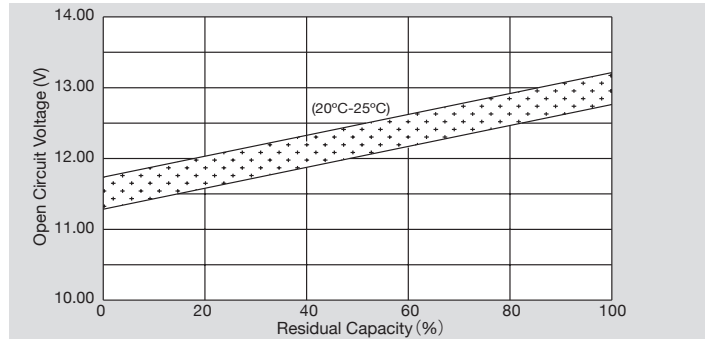
Constant Voltage Charging Characteristic 25°C



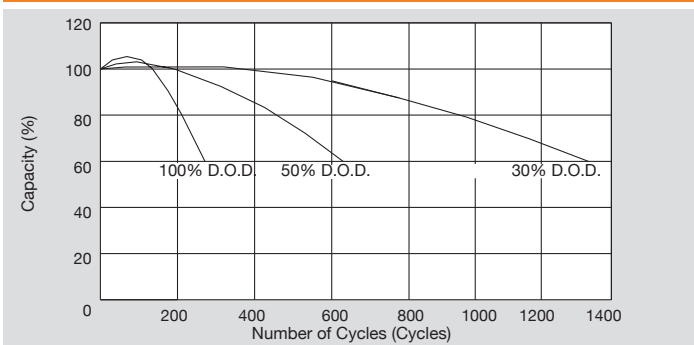
Relationship Between Charging Voltage and Temperature



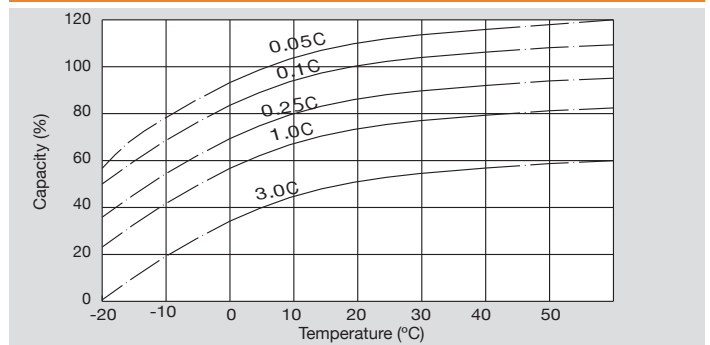
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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