

SPA 12 - 12 | 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

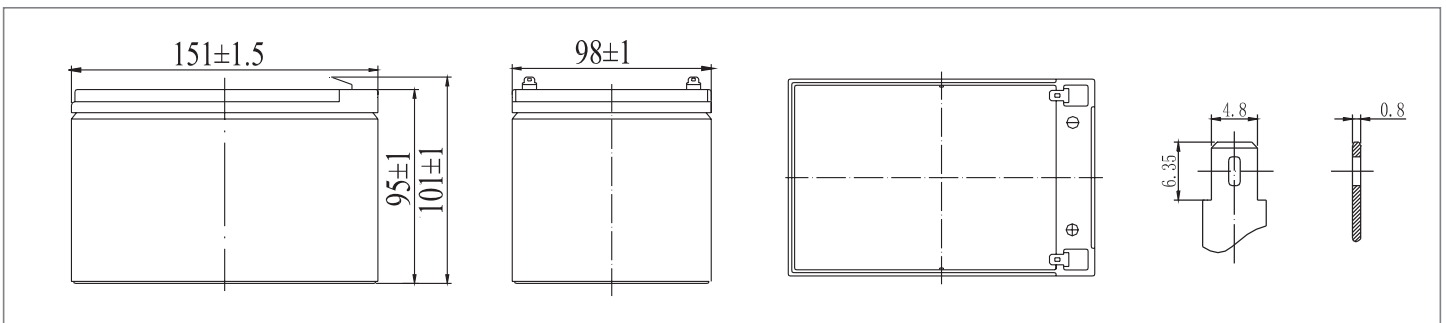
Specifications

Nominal Voltage	12 V	
Number of cells	6	
Design Life	10 years	
Dimensions	Length	151 mm
	Width	98 mm
	Height	95 mm
	Total Height	101 mm
Approx. Weight	3.40 kg	
Nominal Capacity (25°C)	20 hours rate (0.60 A, 10.5 V)	12.00 Ah
	10 hours rate (1.13 A, 10.5 V)	11.30 Ah
	5 hours rate (1.92 A, 10.5 V)	9.60 Ah
	1 hour rate (7.36 A, 9.6 V)	7.36 Ah
Max. Discharge Current (25°C)	180 A (5s)	
Max. Charging Current (25°C)	38 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	386 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	2h	3h	4h	5h	8h	10h	20h
1.60 V	42.5	27.1	21.4	12.0	7.36	4.06	2.90	2.26	1.96	1.29	1.14	0.61
1.65 V	41.1	26.2	20.9	11.8	7.25	4.03	2.88	2.25	1.95	1.28	1.14	0.60
1.70 V	39.4	25.1	20.1	11.4	7.06	4.00	2.86	2.24	1.93	1.27	1.13	0.60
1.75 V	37.8	24.1	19.4	11.1	6.92	3.94	2.84	2.22	1.92	1.26	1.13	0.60
1.80 V	35.6	22.7	18.4	10.7	6.71	3.84	2.76	2.15	1.86	1.22	1.11	0.56

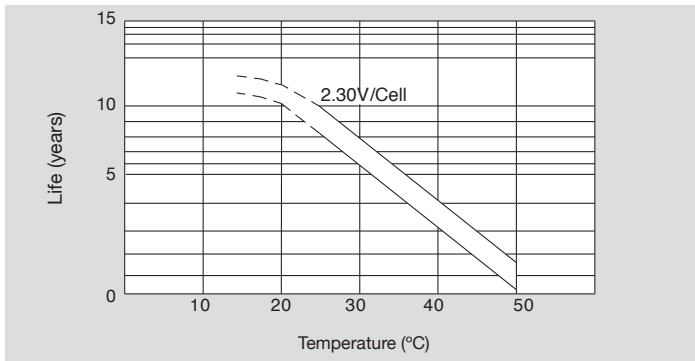
Constant Power Discharge (Watts) at 25°C

End Voltage (Volts/Cell)	5 min	10 min	15 min	30 min	1 h	2h	3h	4h	5h	8h	10h	20h
1.60 V	477	305	244	138	85.2	47.5	34.5	27.0	23.4	15.4	13.7	7.29
1.65 V	463	296	238	135	83.9	47.2	34.3	26.8	23.2	15.3	13.7	7.26
1.70 V	444	284	229	131	81.8	46.8	34.0	26.6	23.1	15.2	13.6	7.21
1.75 V	424	271	221	127	80.2	46.1	33.8	26.4	22.9	15.1	13.5	7.20
1.80 V	400	256	210	123	77.7	44.9	32.8	25.6	22.2	14.7	13.3	6.77

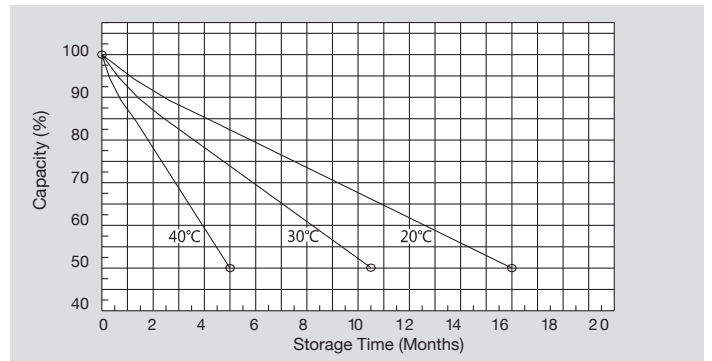
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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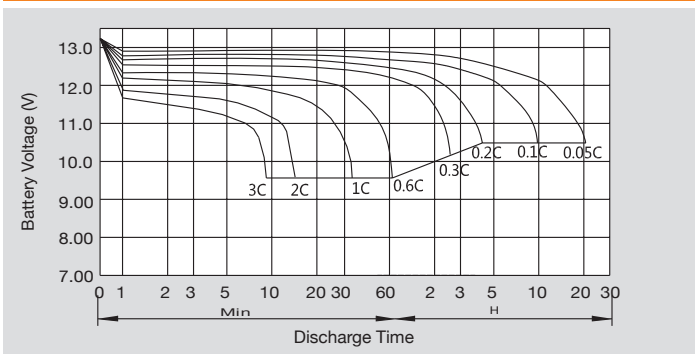
Temperature Effects on Float Life



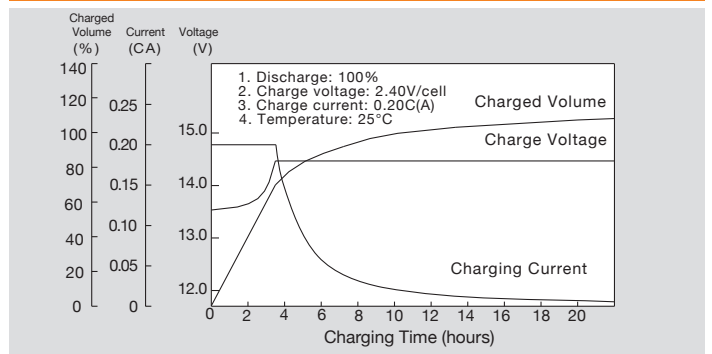
Self Discharge Characteristics



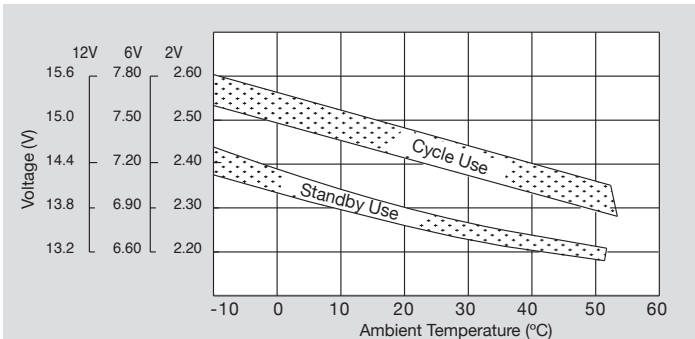
Discharge Characteristics (25°C)



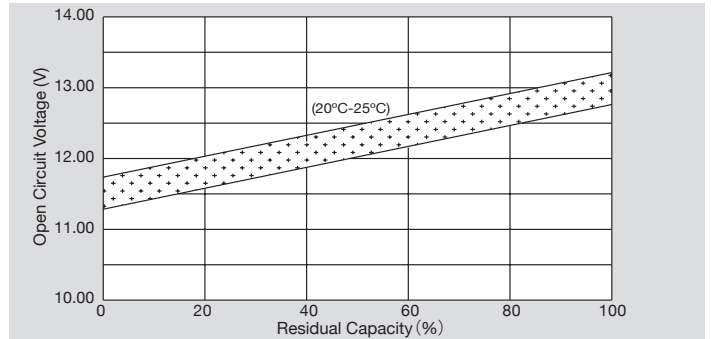
Constant Voltage Charging Characteristic 25°C



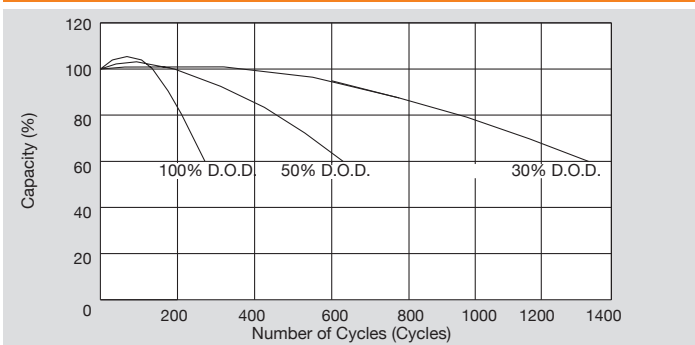
Relationship Between Charging Voltage and Temperature



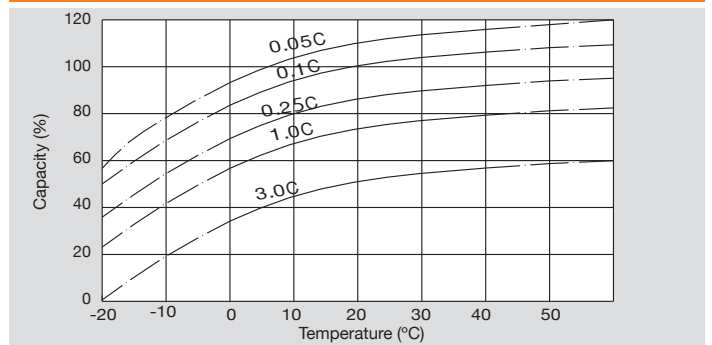
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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