

SPA 12 - 28 | 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

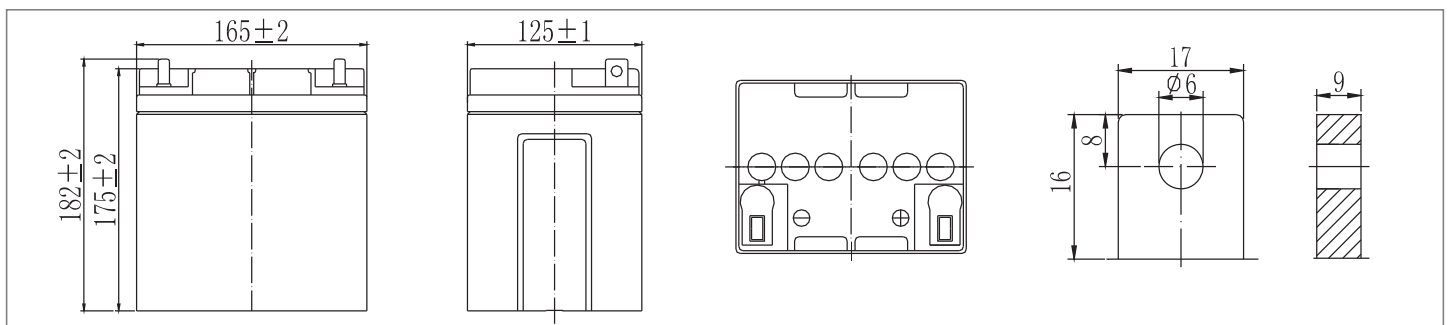
Specifications

Nominal Voltage	12 V		
Number of cells	6		
Design Life	10 years		
Dimensions	Length	165 mm	
	Width	125 mm	
	Height	175 mm	
	Total Height	182 mm	
Approx. Weight	8.6 kg		
Nominal Capacity (25°C)	20 hours rate (1.40 A, 10.5 V)	28.0 Ah	
	10 hours rate (2.60 A, 10.5 V)	26.0 Ah	
	5 hours rate (4.76 A, 10.5 V)	23.8 Ah	
	1 hour rate (17.60 A, 9.6 V)	17.6 Ah	
Max. Discharge Current (25°C)	420 A (5s)		
Max. Charging Current (25°C)	8.4 A		
Internal Resistance	11 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	875 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	8 h	10 h	20 h
1.60 V	99.2	64.8	51.3	28.6	17.6	9.95	7.14	5.71	4.86	3.14	2.64	1.42
1.65 V	96.9	62.9	50.1	28.0	17.3	9.89	7.10	5.68	4.83	3.12	2.63	1.42
1.70 V	92.9	60.3	48.2	27.2	16.8	9.80	7.05	5.64	4.79	3.10	2.62	1.41
1.75 V	88.9	57.7	46.6	26.5	16.5	9.65	7.00	5.60	4.76	3.08	2.60	1.40
1.80 V	83.3	54.4	44.1	25.6	16.0	9.41	6.79	5.43	4.62	2.99	2.55	1.37

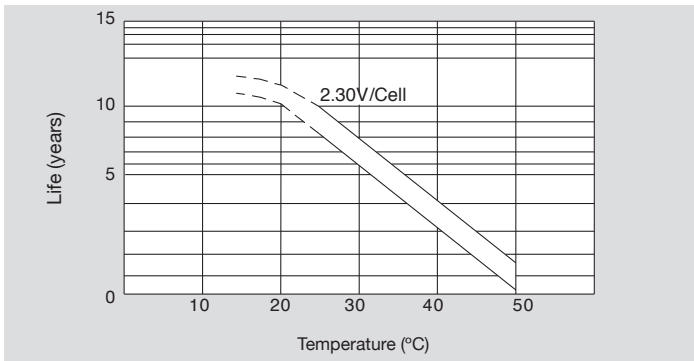
Constant Power Discharge (Watts) at 25°C

End Voltage (Volts/Cell)	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V	1112	731	585	328	203	116	84.8	68.0	58.0	37.7	31.7	17.1
1.65 V	1079	709	571	321	200	116	84.3	67.6	57.6	37.5	31.6	17.0
1.70 V	1032	680	550	312	195	115	83.7	67.2	57.2	37.2	31.4	16.9
1.75 V	993	651	531	304	191	113	83.2	66.7	56.8	37.0	31.2	16.8
1.80 V	937	614	503	293	185	110	80.7	64.7	55.1	35.9	30.6	16.5

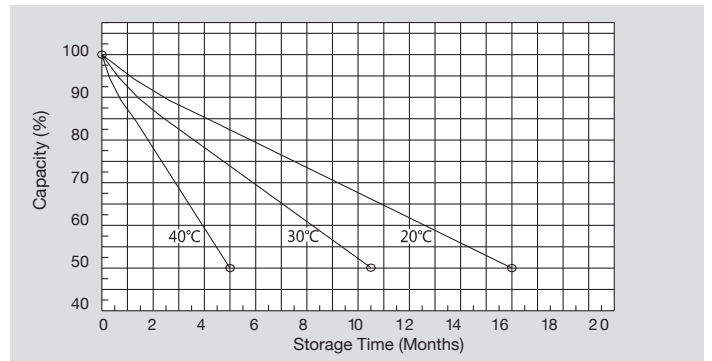
(Note) The above characteristics data are average values obtained within three charge/discharge cycles.

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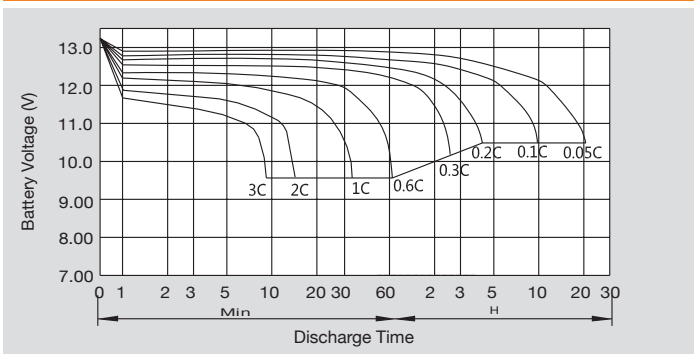
Temperature Effects on Float Life



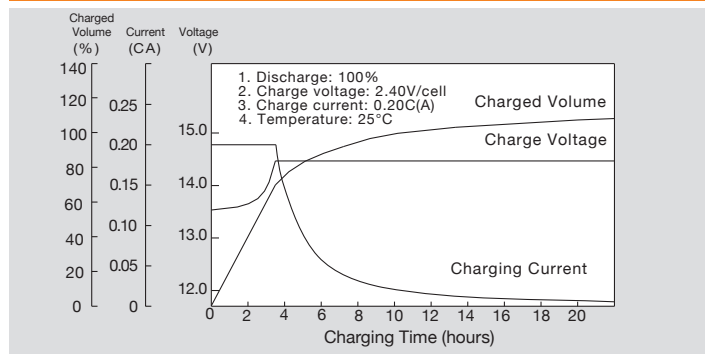
Self Discharge Characteristics



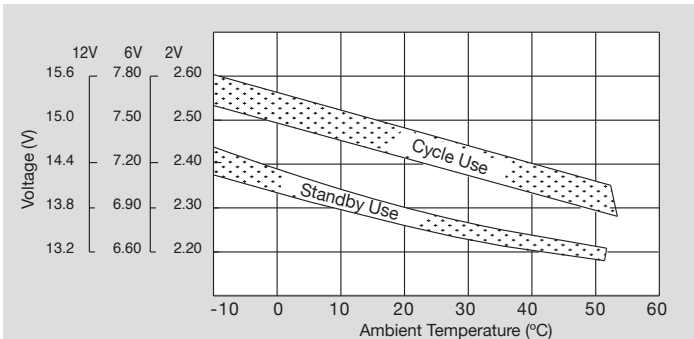
Discharge Characteristics (25°C)



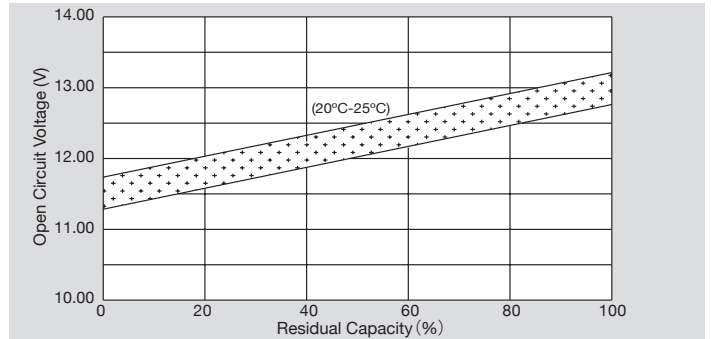
Constant Voltage Charging Characteristic 25°C



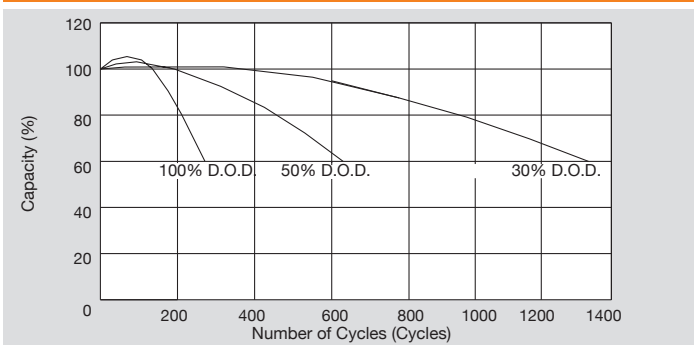
Relationship Between Charging Voltage and Temperature



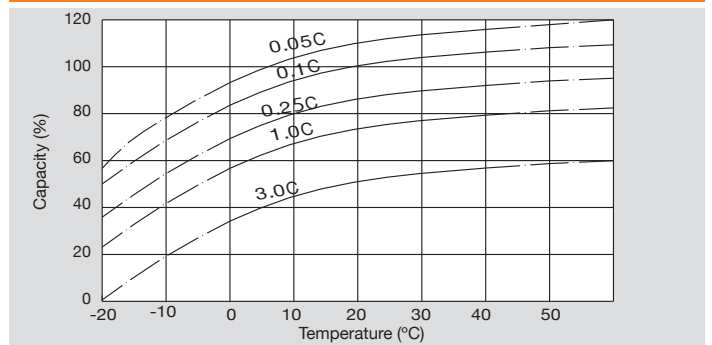
Relationship Between Open Circuit Voltage and Residual Capacity (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



SYSTEMS SUNLIGHT S.A.

Headquarters

2 Ermou & Nikis Str., Syntagma Sq.
105 63 Athens, Attica, Greece

T +30 210 6245400 F +30 210 6245409

European Manufacturing Plant

672 00 Neo Olvio, Xanthi, Greece

T +30 25410 48100 F +30 25410 95446

Global Service Department

90 Tatoiou Str.

136 73 Acharnes, Attica, Greece

T +30 210 6245600 F +30 210 6245619

