

# SPG 12V - 45Ah | VRLA GEL Battery

SPG are sealed valve-regulated lead acid recombinant batteries that are non-spillable and maintenance-free. Although initially more expensive to purchase than AGM they offer a lower total cost to own over the life of the battery. When it comes to performance and life span the SPG batteries outperform other technologies and provide the greatest value for your stand-by application or cycling needs.

## Technical Features

- Micro millimeter SiO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> gelled electrolyte technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.
- Case and cover available in both standard and flame retardant ABS.

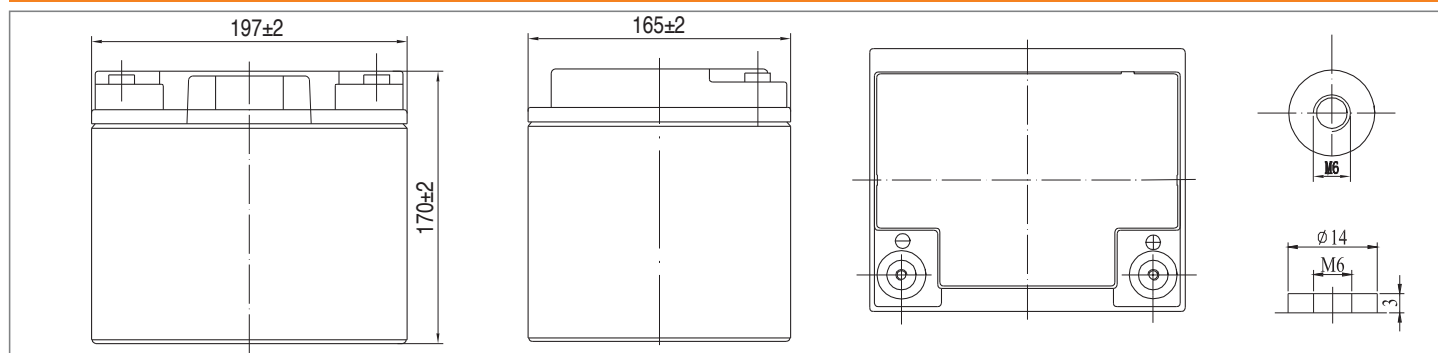
## Specifications

Nominal Voltage	12 V	
Number of cells	6	
Design Life	12 years	
Dimensions	Length	197 mm
	Width	165 mm
	Height	170 mm
	Total Height	170 mm
Approx. Weight	13.5 kg	
Nominal Capacity (25°C)	20 hours rate (2.32 A, 10.8 V)	46.4 Ah
	10 hours rate (4.50 A, 10.8 V)	45.0 Ah
	5 hours rate (7.50 A, 10.5 V)	37.5 Ah
	1 hour rate (27.00 A, 9.6 V)	27.0 Ah
Max. Discharge Current (25°C)	450 A (5s)	
Short Circuit Current	1520 A	
Internal Resistance	8.5 mOhms	
Fully Charged battery (25°C)	8.5 mOhms	
Self-Discharge	3% of capacity declined per month at 25°C (average)	
Operating Temperature Range	Discharge	-15~50°C
	Charge	-10~50°C
	Storage	-20~50°C
Max. Charging Current	9.0 A	
Charging Characteristics (25°C)	Float Charging Voltage	13.50 V to 13.80 V
	Temperature Compensation	-18 mV/°C
	Cyclic Charging Voltage	14.40 V to 14.70 V
	Temperature Compensation	-30 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	Gelled acid

## Dimensions



## Constant Current Discharge (Amperes) at 25°C

End Voltage (Volts/Cell)	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60 V	74	68	43	27.0	16.2	11.0	8.7	7.6	5.4	4.6	2.36
1.65 V	72	67	42	26.6	16.1	11.0	8.7	7.6	5.4	4.6	2.35
1.70 V	69	64	41	25.9	16.0	10.9	8.6	7.5	5.3	4.6	2.35
1.75 V	66	62	40	25.4	15.7	10.8	8.6	7.5	5.3	4.5	2.33
1.80 V	62	59	39	24.6	15.3	10.5	8.3	7.2	5.2	4.5	2.32

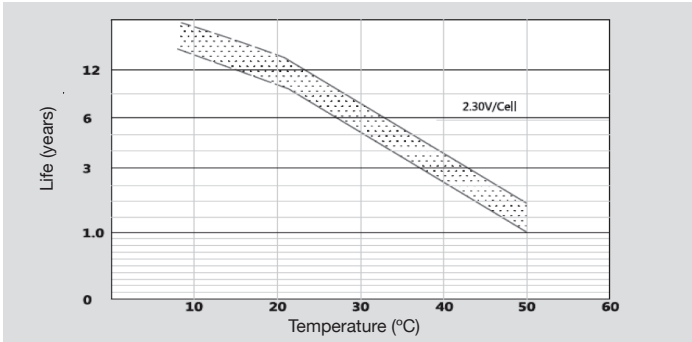
## Constant Power Discharge (Watts) at 25°C

End Voltage (Volts/Cell)	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60 V	802	751	485	308	188	130	103	90	64	54.7	28.3
1.65 V	778	733	475	303	187	129	102	90	64	54.6	28.3
1.70 V	746	706	460	295	185	128	101	89	64	54.4	28.2
1.75 V	714	682	449	290	182	127	101	88	63	54.1	28.0
1.80 V	674	646	433	281	178	123	98	86	61	53.7	27.8

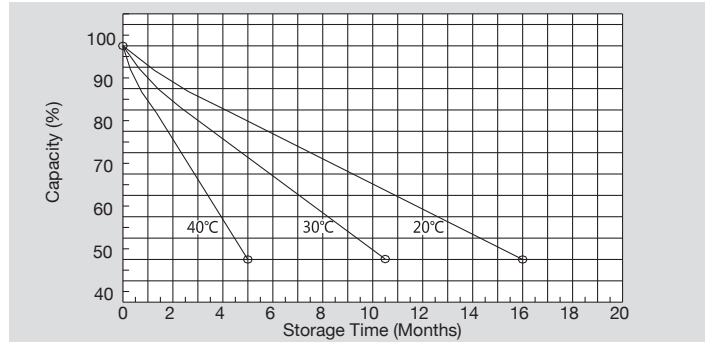
Note: The above characteristics data can be obtained within three charge/discharge cycles.

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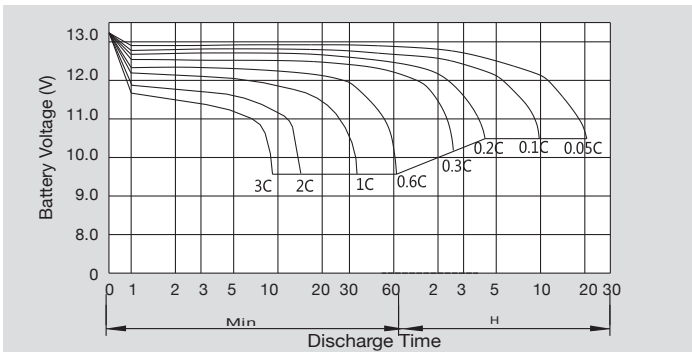
## Temperature Effects on Float Life



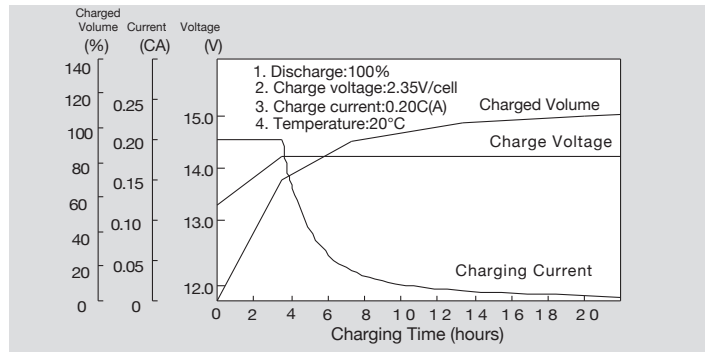
## Self Discharge Characteristics



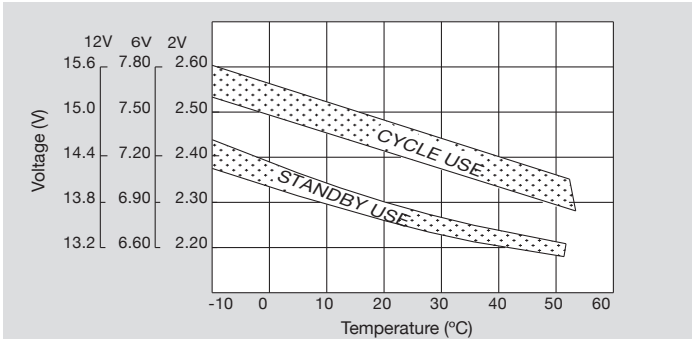
## Discharge Characteristics (25°C)



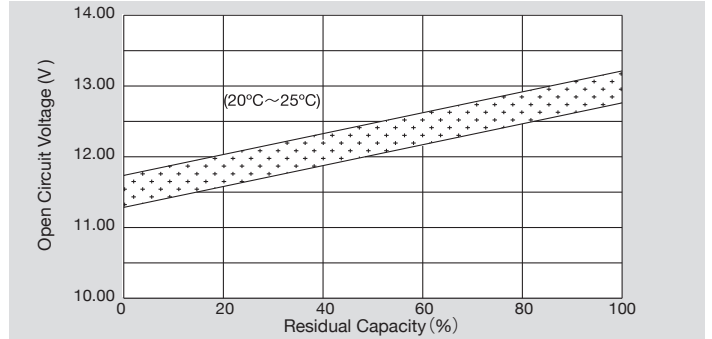
## Charging Characteristics (25°C)



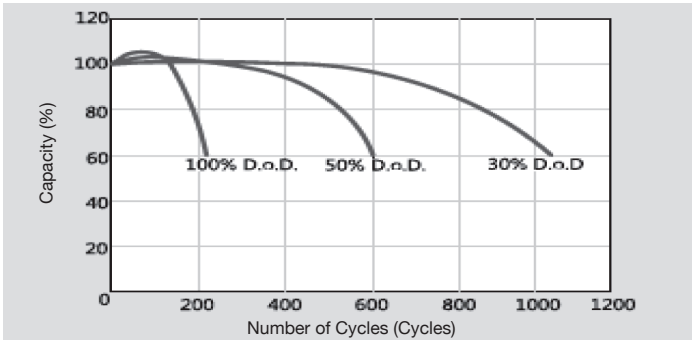
## Relationship Between Charging Voltage and Temperature



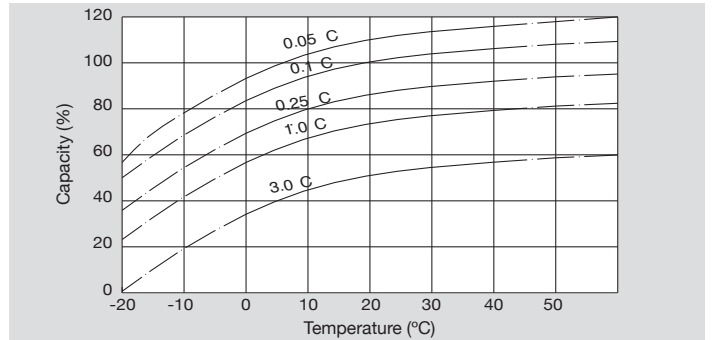
## Relationship Between OCV and Residual Capacity (25°C)



## Cycle Service Life in Relation to Depth of Discharge



## Temperature Effects on Capacity



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