

Sigma Power Systems

SG12550 (12V 55.0Ah)

This product is a general purpose rechargeable battery Sealed Lead Acid (SLA) Technology. It is also called Valve Regulated Lead Acid (VRLA) battery. The design life is 5 years at 25 C (77°F) when used under normal operating conditions. Higher temperatures, higher charging voltage, storing at lower state of charge are some of the factors affect the life of the SLA battery. Capacity will vary depending on the temperature. Check the graphs below for details. Always follow the safety instructions

Specification

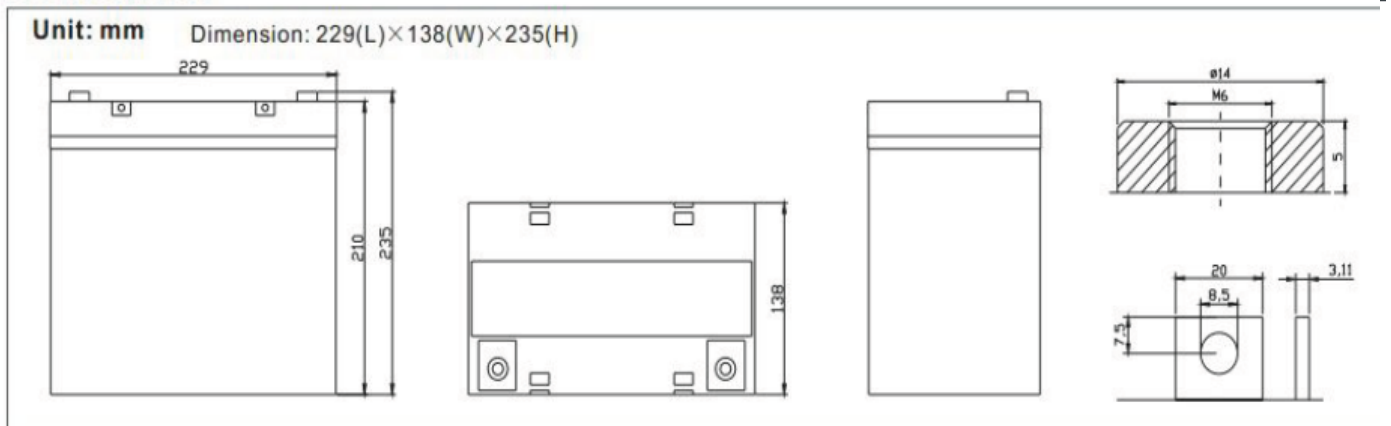


Cells per Unit	6
Nominal Voltage per cell/battery	2/12 V
Capacity	55.0 Ah at 20 hr.-rate to 1.75V per cell at 25° C
Weight	Approximately 16.60 KG/23.14 lbs. (Tolerance ± 3%)
Maximum Charge Current	16.50 A
Operating Temperature Range	Discharge: -20°C ~ 60°C Charge: 0°C ~ 50°C Storage: -20°C ~ 60°C
Nominal Operating Temperature Range	25 ± 5°C
Float Charge Voltage	13.6 to 13.8 VDC/unit Average at 25°C
Maximum Discharging Current Limit	550 Amp (5 seconds)

Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminals	F11/F15
Jar Material	A.B.S UL94-HB

Physical Dimensions: in (mm)

Dimensions





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Use this chart to estimate the current for various times and end of discharge of voltages (EDV)

Constant Current Discharge Characteristics: Amp (25°C)

EDV	5 Min.	10 Min.	15 Min.	30 Min.	1 Hr.	2 Hr.	3 Hr.	5 Hr.	8 Hr.	10 Hr.	20 Hr.
9.60 V	184.3	135.7	105.8	64.46	35.75	21.38	14.76	10.30	7.033	5.833	3.113
10.0 V	179.0	129.1	103.6	63.34	35.59	21.22	14.71	10.24	6.976	5.777	3.0565
10.2 V	173.7	124.5	101.97	62.17	35.26	21.06	14.59	10.17	6.919	5.721	2.999
10.5 V	155.9	114.9	97.09	61.70	34.93	20.90	14.54	10.05	6.861	5.665	2.943
10.8 V	140.7	104.8	89.50	60.65	34.10	20.52	14.14	9.872	6.747	5.609	2.886
11.1 V	120.2	93.7	80.28	56.78	32.40	19.61	13.52	9.448	6.461	5.441	2.716

Use this chart to estimate the power for various times and end of discharge voltages (EDV)

Constant Power Discharge Characteristics: Watt (25°C)

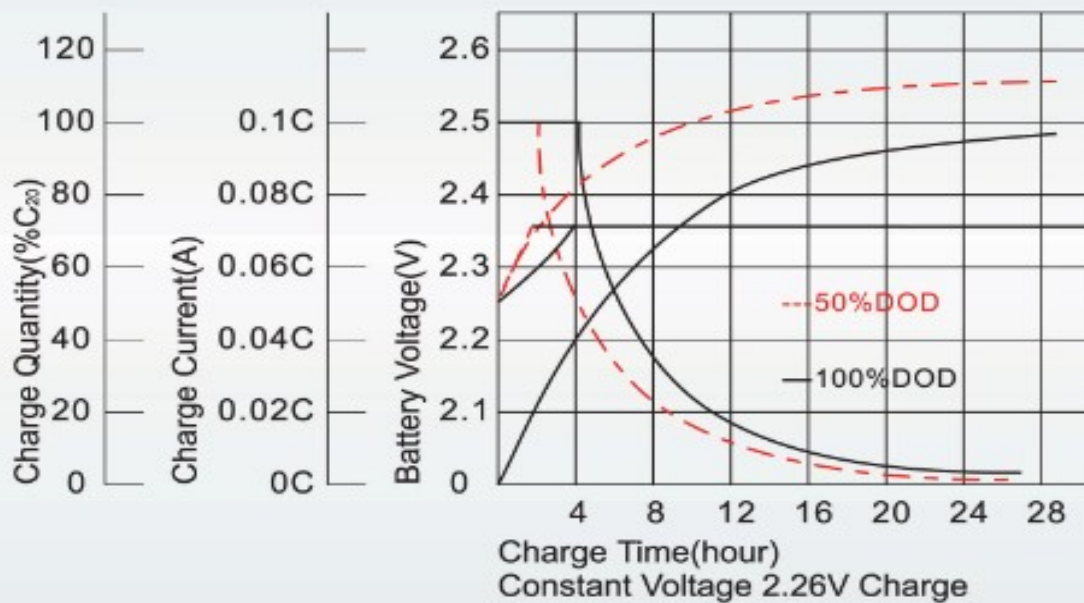
EDV	5 Min.	10 Min.	15 Min.	30 Min.	1 Hr.	2 Hr.	3 Hr.	5 Hr.	8 Hr.	10 Hr.	20 Hr.
9.60 V	1944	14445	1153	723.3	413.1	252.0	175.7	122.8	83.97	69.71	37.32
10.0 V	1906	1401	1135	714.4	412.1	250.7	175.7	122.5	83.57	69.27	36.67
10.2 V	1884	1364	1122	709.4	408.9	249.1	175.0	122.1	83.02	68.65	35.99
10.5 V	1715	1270	1070	704.5	405.3	247.3	174.3	120.6	82.34	67.98	35.31
10.8 V	1562	1171	989.0	693.2	397.8	244.2	169.6	118.5	80.96	67.31	34.63
11.1 V	1372	1058	890.3	652.9	380.8	235.1	162.2	113.38	77.53	65.29	32.60



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Charge Characteristics for Float Use @ 25°C/77°F

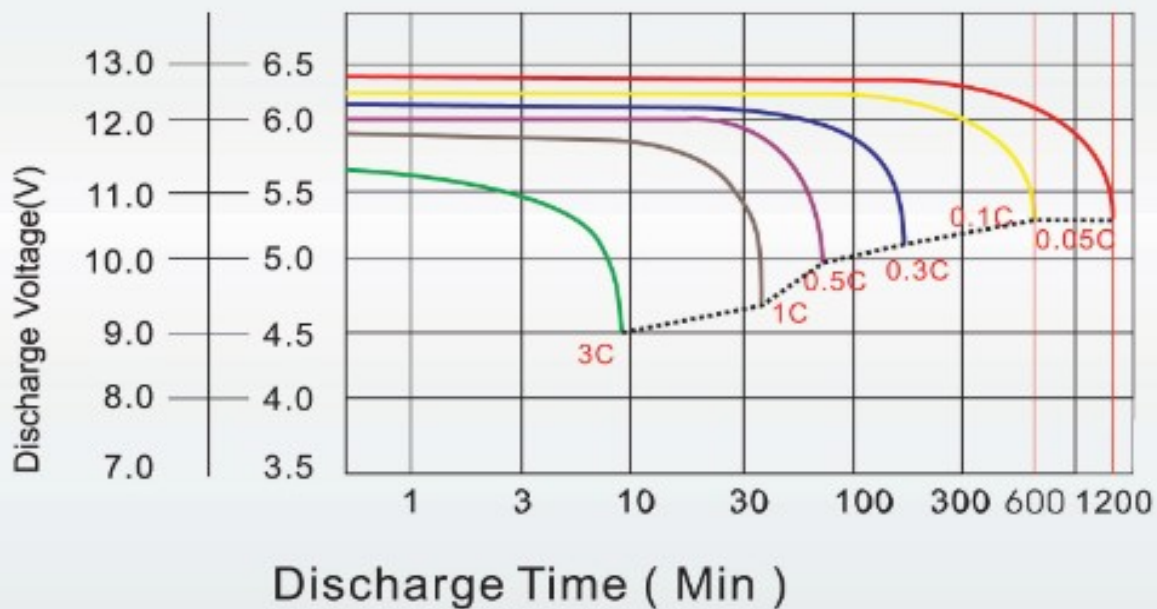




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Discharge Characteristics at Various Rates @ 25°C/77°F





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Capacity at Different Temperatures

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V & 12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V & 12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

Discharge Current Vs. Discharge Voltage

Final Discharge Voltage V/cell	1.75V	1.70V	1.60V
Discharge Current (A)	A≤0.2C	0.2C≤A≤1.0C	≥1.0C

Safety & Maintenance Tips

- ⚠ Do not charge the battery in air tight atmosphere.
- ⚠ Do not short the terminals.
- ⚠ Avoid leaving them in hot environment.
- ⚠ Charge the batteries at least once in 6 months when the batteries are at 77F
- ⚠ Max. charge current 0.3CA, constant voltage 2.4-2.45V/Cell charge 24h
- ⚠ Effect of temperature on float charge voltage: -3mV/Cell.
- ⚠ Life will be reduced by number and depth of discharge.
- ⚠ Do not discharge below the minimum recommended voltage.
- ⚠ Leaving a discharged battery without charge for a long period of time will affect the life of the batteries.

Charging Method

Constant Voltage	-0.2C*2h+2.4-2.45V/cell*24h, Max. Current 0.3CA
Constant Current	-0.2C*2h+0.1CA*12h
Fast	-0.2C*2h+0.3CA*4.0h

General applications – Emergency lights, solar, UPS, Alarm systems, Security systems, wheelchairs, flash lights, toys etc.

Charge the batteries at least once every six months, if they are stored at 25 °C

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