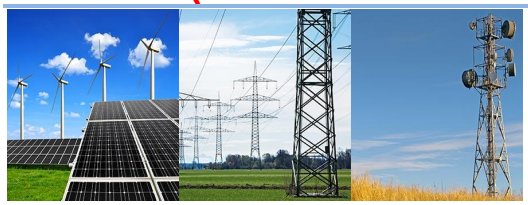
Gel Battery For Solar and Remote Area Power Systems

GEL TECHNOLOGY

SG（Solar-GEL）SERIES

2SG595(2V597AH/120 HR)



SG series batteries using revolutionary Solar-GEL long life plate technology has been designed specifically for solar applications. Solar applications are often remotely located and installed in the most extreme environmental conditions. To deliver a reliable service with a long operating life requires a unique blend of physical, structural and chemical characteristics. For this reason SG series batteries is possibly the world's best solar battery.

General Features

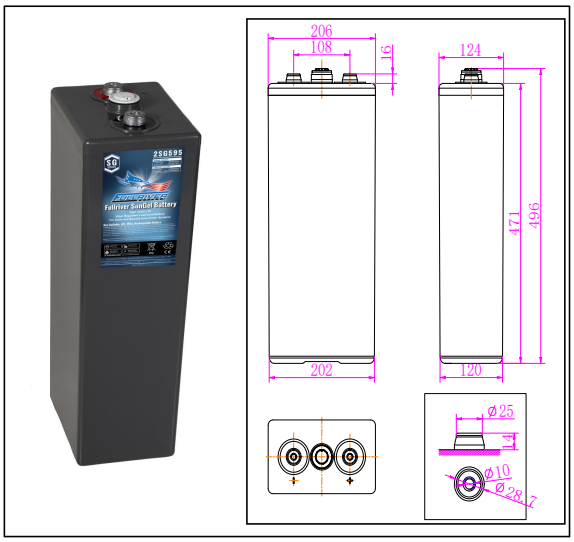
(1) Superior low current discharge performance.

(2) Excellent Recovery from deep discharge and good deep discharge cycle capability.

(3) The battery has a low self-discharge,keep over 60% of the rated capacity after 2years stored under 25℃.

(4) Compliance with IEC61427 (1999) , AS 4086.1 (1993).

Outer Dimensions



Dimensions and Weight

Total Height.....496 ±2mm (19.5 inches)

Height.....471 ±2mm (18.5 inches)

Length.....124 ±2mm (4.9 inches)

Width.....206 ±2mm (8.1 inches)

Weight.....Approx. 29.5 Kg (65.0 lbs)

Performance Characteristics

Nominal Voltage.....2V

Nominal of cell.....1

Design life.....20 years

Nominal Capacity 77°F(25°C)

120 hour rate to 1.80V.....597 AH

100 hour rate to 1.80V.....562 AH

20 hour rate to 1.80V.....408 AH

10 hour rate to 1.80V.....379 AH

Safety vent.....Self resealing 150 mbar

Self-Discharge

.....2.5% of capacity declined per month at 25℃ (77℉)

Operating Temperature Range

Discharge .....-40℃ to 55℃ (-40℉-131℉)

Charge .....-10℃ to 50℃ (14℉-122℉)

Storage .....-20℃ to 40℃ (-4℉-104℉)

Nominal Operating Temperature Range.....25±3°C

Max.Discharge Current 77°F(25°C).....500 A(5S)

Short Circuit Current.....3337 A

Internal Resistance 0.55mΩ

Container Material .....

.....ABS, Flame retardant to UL94V-O and BS6334 FVO

Terminal.....Threaded insert terminal M10

Charging Methods

Application	Charging method	Charging voltage at 25 ℃	Temperature compensation coefficient of charging voltage	Max. charging current	Charging time 25℃(h)	
					100% discharge	50% discharge
For standby power source	Constant voltage &Constant current charging(with current restriction)	2.25～2.275V	-3mV/℃	0.125C10	36	24
For Cycle service		2.40～2.45V	-4mV/℃	0.125C10	24	16

*Temperature compensation of charging voltage is not needed.when using the batteries within 5°C to 35°C range.

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SG Series: 2SG595

2V597Ah/120Hr

Constant Current Discharge Characteristics: A(25℃)

F.V/Time	1h	2h	3h	5h	8h	10h	12h	24h	48h	72h	100h	120h
1.9	117	94	74	52.7	38.3	32.4	26.1	15.8	9.0	6.52	5.15	4.42
1.87	122	96	77	54.0	39.2	33.0	26.8	16.0	9.3	6.69	5.32	4.60
1.85	139	110	90	61.3	42.9	35.7	27.8	16.8	9.6	6.95	5.53	4.79
1.83	152	113	91	61.6	43.1	36.2	30.5	17.0	9.7	7.04	5.56	4.88
1.8	172	121	95	64.5	45.1	37.9	30.9	17.1	10.0	7.13	5.62	4.97
1.75	198	127	96	64.8	45.3	38.3	---	---	---	---	---	---
1.7	206	133	98	65.2	45.5	38.5	---	---	---	---	---	---
1.65	214	136	101	65.4	45.5	38.7	---	---	---	---	---	---

Constant Power Discharge Characteristics: W/cell(25℃)

F.V/Time	1h	2h	3h	5h	8h	10h	12h	24h	48h	72h	100h	120h
1.9	229	185	145	104.4	76.4	65.0	51.8	31.7	18.2	13.04	10.48	9.01
1.87	238	188	151	106.4	77.7	65.9	53.1	32.2	18.6	13.45	10.70	9.27
1.85	269	212	176	119.9	84.2	71.6	55.3	33.9	19.3	14.02	11.13	9.63
1.83	291	217	176	121.4	85.5	72.1	60.3	34.5	19.6	14.16	11.22	9.84
1.8	326	231	183	122.9	86.8	75.3	61.4	34.5	19.9	14.27	11.34	10.01
1.75	375	243	184	124.4	87.7	76.1	---	---	---	---	---	---
1.7	383	250	186	126.0	88.4	76.6	---	---	---	---	---	---
1.65	395	254	188	126.5	88.6	76.8	---	---	---	---	---	---

Design Life and Temperature

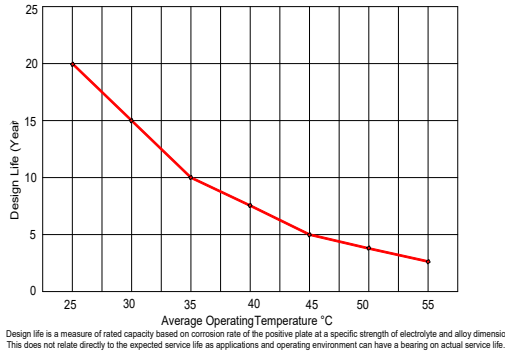

Figure 1: Design Life Vs. Temperature

Capacity and Temperature

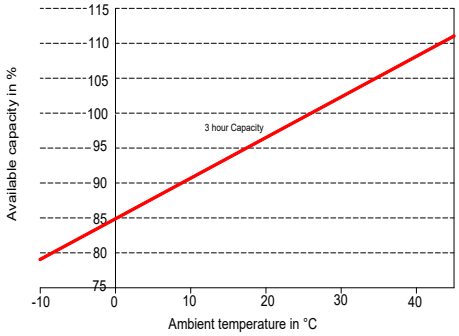

Figure 2: Capactiy Vs Ambient temperature

Capacity Retention Characteristic

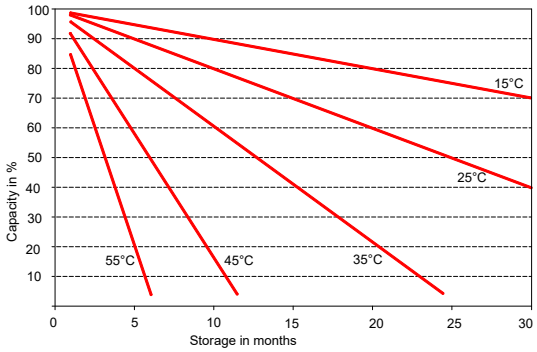

Figure 3. Self-discharge in relation to the storage temperature.

Cycle Service Life

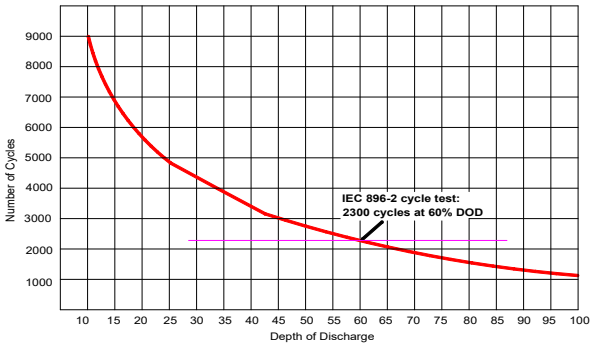

Figure 4. FSG Series, Number of Cycles vs. Depth of Discharge (DOD)

Contact Information

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Other Fullriver battery ranges:

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HC Series *: AGM Battery For High Cranking service*
HGXL Series *: 2V AGM Stationary batteries*
HGHL Series *: AGM Batteries for High Rate Service*
FAT Series *: Front Access Terminal Batteries for Telecom/IT Applications*
DCG Series *: Gel Battery For Deep Cycle service*
HGL Series *: AGM Battery For General Purpose service*