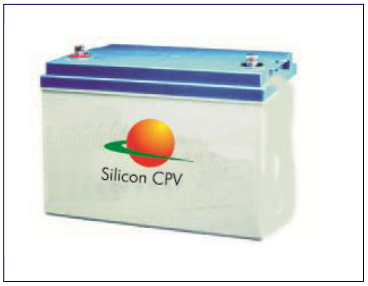
SCPV12-100DG (12V100Ah)

The SCPV12-100DG is GEL Deep cycle battery, with 12 years floating design life, specially designed for frequent cyclic discharge applications under extreme temperatures. By using strong grid we insure reliable performance under frequent cyclic discharge use. 400 cycles could be achieved at 100% DOD. This model offers extra-durable cyclic performance, high efficiency of recovery which makes it highly suitable for solar applications.

Silicon CPV

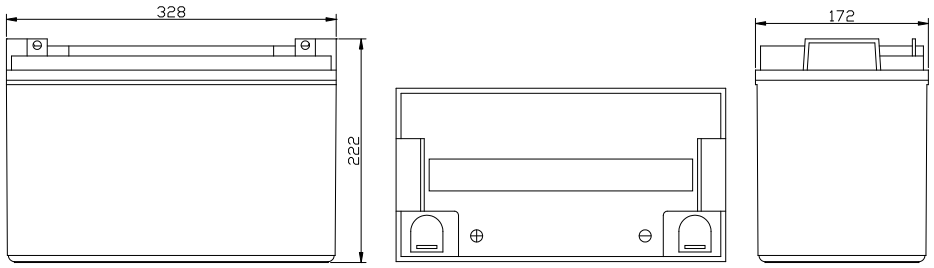
Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	100Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 30.0 Kg
Max. Discharge Current	1000 A (5 sec)
Internal Resistance	Approx. 7.5 mΩ
Operating Temperature Range	Discharge: -40°C~60°C Charge:-20°C~50°C Storage: -40°C~60°C
Normal Operating Temperature Range	25°C±5°C
Float charging Voltage	13.6 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	20A
Equalization and Cycle Service	14.2 to 14.4VDC/unit Average at 25°C
Self Discharge	SCPV Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self discharge rate is less than 3% per month at 25°C. Please charge batteries before using.
Terminal	Terminal F5/F12
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.

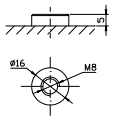


Dimensions

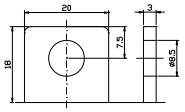
Unit: mm Dimension: 328(L)×172(W)×222(H)



Terminal F12



Terminal F5



Constant Current Discharge Characteristics: A (25°C) (Average Values)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	262.0	195.1	152.7	100.4	58.84	35.19	24.30	20.13	16.95	11.58	9.60	5.12
10.0V	254.4	185.6	149.5	98.74	58.57	34.92	24.21	20.04	16.85	11.48	9.51	5.03
10.2V	246.9	179.1	147.2	97.86	58.03	34.66	24.02	19.94	16.75	11.39	9.42	4.94
10.5V	224.3	167.2	141.8	98.07	57.48	34.39	23.93	19.76	16.55	11.29	9.32	4.84
10.8V	204.8	154.3	132.2	97.33	56.12	33.78	23.28	19.29	16.25	11.11	9.23	4.75
11.1V	176.9	139.5	120.0	91.99	53.32	32.28	22.25	18.36	15.55	10.63	8.96	4.47

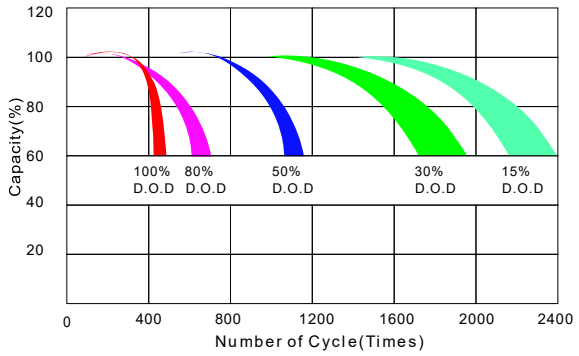
Constant Power Discharge Characteristics: W (25°C) (Average Values)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2764	2078	1664	1127	679.9	414.8	289.2	239.9	202.2	138.2	114.7	61.43
10.0V	2709	2014	1638	1114	678.3	412.6	289.3	239.6	201.7	137.6	114.0	60.36
10.2V	2678	1961	1619	1117	673.1	410.1	288.0	239.1	201.0	136.7	113.0	59.24
10.5V	2467	1848	1563	1120	667.0	407.1	286.9	236.9	198.6	135.5	111.9	58.13
10.8V	2273	1723	1461	1112	654.7	401.9	279.1	231.5	195.0	133.3	110.8	57.01
11.1V	2020	1576	1330	1058	626.7	387.0	267.0	220.3	186.6	127.6	107.5	53.65

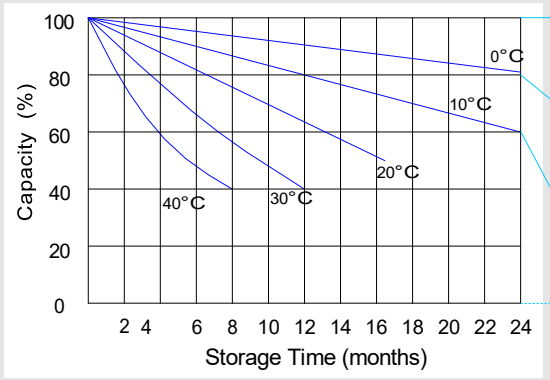
SCPV12-100DG

12V100Ah

Life characteristics of cyclic use



Storage characteristic



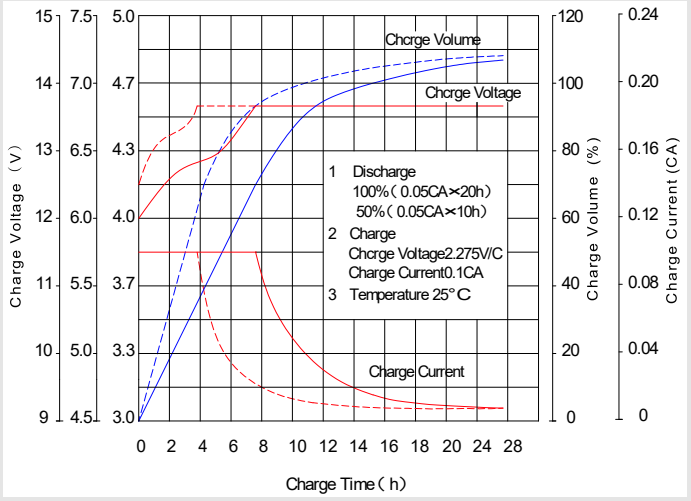
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

Supplementary charge required before use.
This supplementary charge will help to recover the capacity and should be made as early as possible.

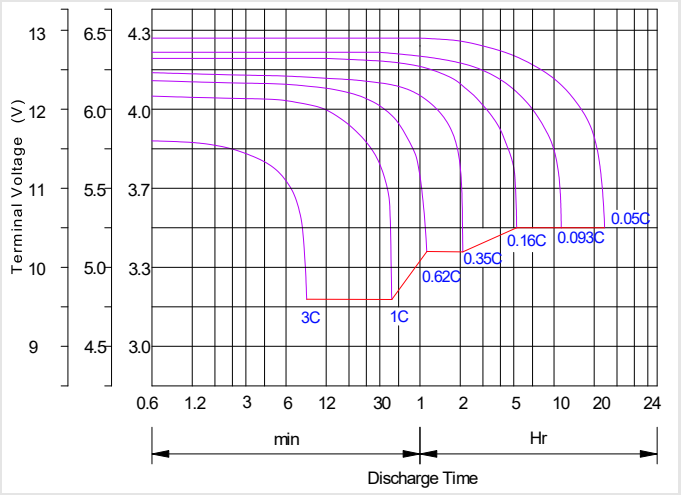
Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic curve for cyclic use



Discharge characteristic curve



Capacity Factors With Different Temperature

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

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

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

Charging Method:

Constant Voltage	-0.2Cx2h+2.4~2.45V/Cellx24h,Max. Current 0.3CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h

Maintenance & Cautions

Cycle service

※Avoid battery over discharge, especially battery series connection use.

※Charge with recommend voltage, ensure battery can be full recharged.

In general, recharge capacity should be 1.1-1.15 times discharge capacity.

※Effect of temperature on cycle charge voltage: -4mV/°C/Cell.

※There are a number of factors that will affect the length of cyclic service.

The most significant are depth of discharge, ambient temperature,

discharge rate, and the manner in which the battery is recharged.

Generally speaking, the most important factors is depth of discharge.

Silicon CPV Ltd, **Akhter House, Perry Road, Harlow, Essex, CM18 7PN, UK**
Tel: 01279 821200 Email: enquiries@SiliconCPV.com Web www.SiliconCPV.com