

# SIN12-45 DC [12V 45AH]

## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	45Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 14.6 Kg (Tolerance ±3%)
Internal Resistance	Approx. 7 mΩ
Terminal	F11(M6)
Max. Discharge Current	450A (5 sec)
Cold Cranking Ampere(CCA)	315A
Maximum Charging Current	13.5 A
Reference Capacity	C3 35.2AH
	C5 40.0AH
	C10 42.8AH
	C20 45.0AH
Float Charging Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C
	Charge: 0°C~50°C
	Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ±5°C
Self Discharge	SINERGY Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



DC (Deep Cycle) series batteries provide superior high integrity and reliability. It is specially designed for frequent cyclic charge and discharge. By using strong grids, thick plate and specially active material are designed for repeated deep-discharge applications. The DC series batteries offer 30% more cyclic life than the standby series. It is suitable for solar and wind renewable energy storage, mobility and medical equipment, V, telecom, broadband and cable TV, UPS systems etc. For general purpose applications, this is a battery with 6-8 years design life in float service.



ISO 9001



ISO 14001



OHSAS 18001

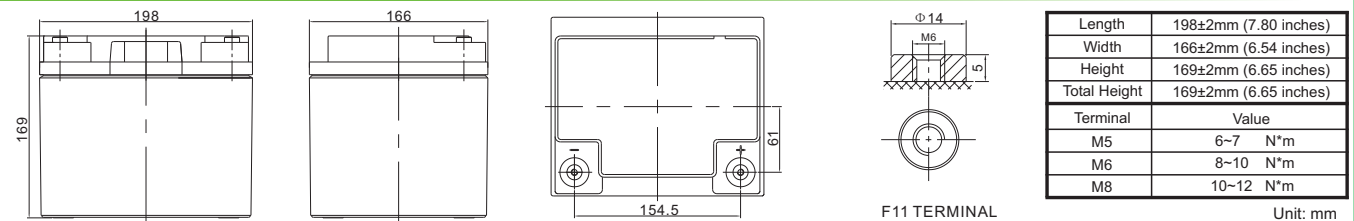


MH 28539



G4M20206-0910-E-16

## Dimensions



### Constant Current Discharge Characteristics : A(25°C)

F.V/Time	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	48.17	27.83	16.47	12.53	9.86	8.35	5.53	4.59	2.34
1.65V	47.16	27.31	16.19	12.34	9.73	8.24	5.47	4.54	2.32
1.70V	45.82	26.61	15.81	12.08	9.55	8.10	5.39	4.48	2.29
1.75V	44.00	25.66	15.31	11.74	9.30	7.91	5.27	4.40	2.25
1.80V	41.51	24.35	14.60	11.25	8.95	7.65	5.11	4.28	2.20
1.85V	37.98	22.49	13.60	10.55	8.45	7.26	4.88	4.10	2.11

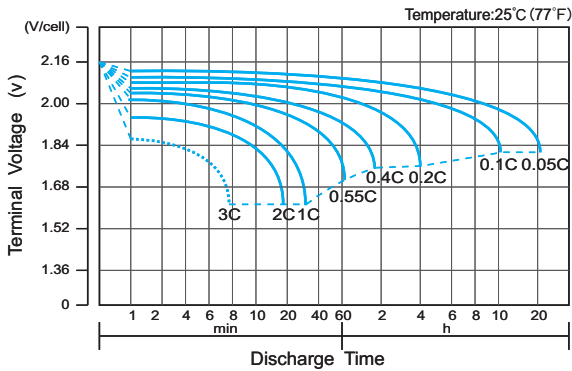
### Constant Power Discharge Characteristics : WPC(25°C)

F.V/Time	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	87.5	52.0	31.2	23.9	18.9	16.1	10.8	9.02	4.60
1.65V	86.9	51.6	30.9	23.7	18.8	16.0	10.7	8.95	4.57
1.70V	84.9	50.5	30.3	23.3	18.5	15.7	10.6	8.83	4.52
1.75V	82.4	48.9	29.4	22.7	18.1	15.4	10.4	8.67	4.45
1.80V	78.5	46.6	28.2	21.9	17.4	15.0	10.1	8.45	4.34
1.85V	72.6	43.4	26.4	20.6	16.5	14.3	9.64	8.12	4.19

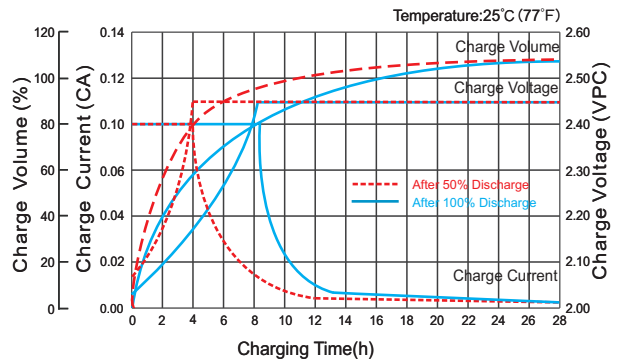
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.



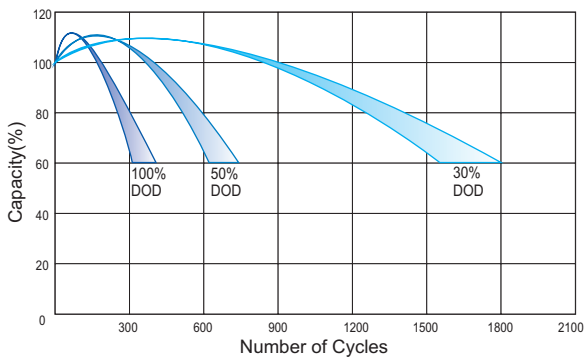
**Discharge Characteristics Curve**



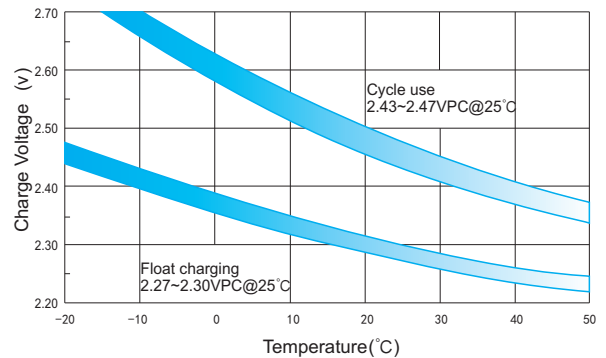
**Charge Characteristic Curve for Cycle Use(IU)**



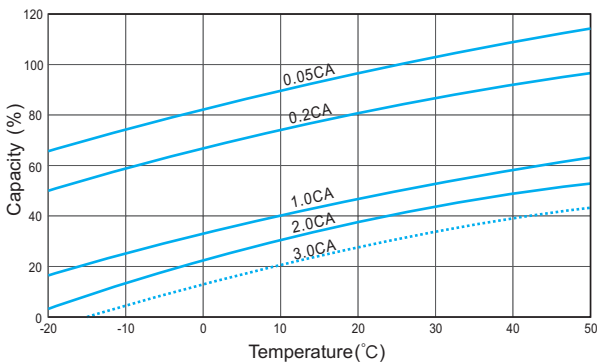
**Cycle Life in Relation to Depth of Discharge**



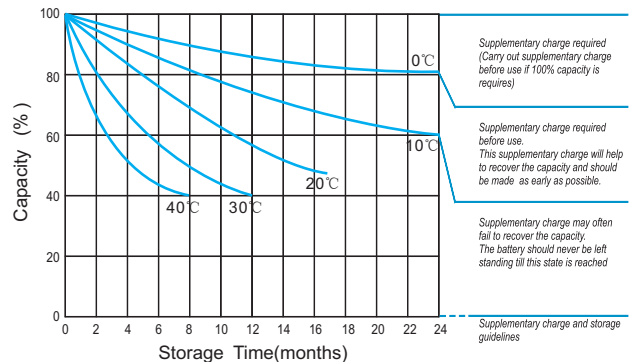
**Relationship Between Charging Voltage and Temperature**



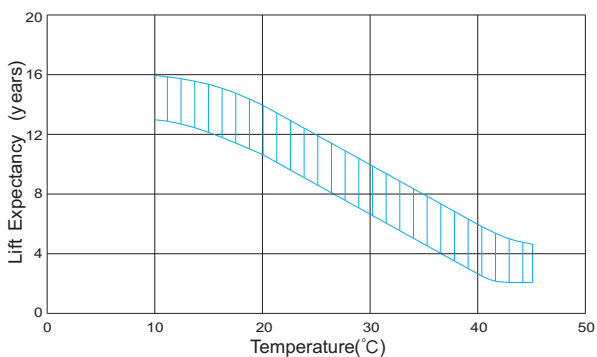
**Temperature Effects on Capacity**



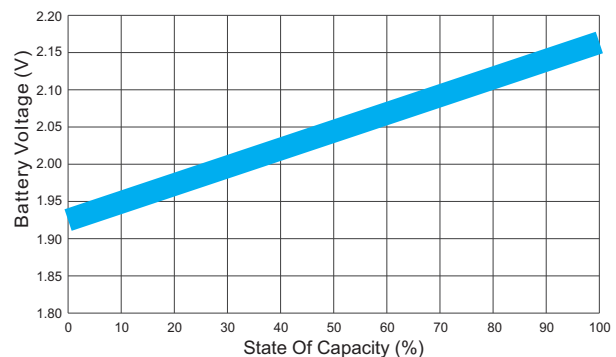
**Storage Characteristics**



**Effect of Temperature on Long Term Life**



**Relationship of OCV And State of Charge(20°C)**



(Note) All above information shall be changed without prior notice,

