

FREE MAINTENANCE SEALED LEAD ACID Battery

SM12-12

SM series Sealed free maintenance lead acid batteries are designed with AGM technology, high performance pure lead plates and sulfuric acid electrolyte to gain extra power output for common power backup system applications widely used in the fields of UPS, Security and Emergency lighting system. They are sealed and free maintenance whole life, valve regulated type standby AGM battery, also named by VRLA battery, SLA battery, and SMF battery.

12V
Voltage

12Ah
Capacity

AGM
Technology

VRLA
Battery



GENERAL FEATURES

- Non-spillable construction design
- Long life span 5-8 years in floating condition
- High quality AGM separator: extend cycle life and prevents micro short circuit
- 99.99% pure lead plates ensure high quality and high reliability.
- Flame-resistance ABS material: increases the strength of battery container.

APPLICATIONS

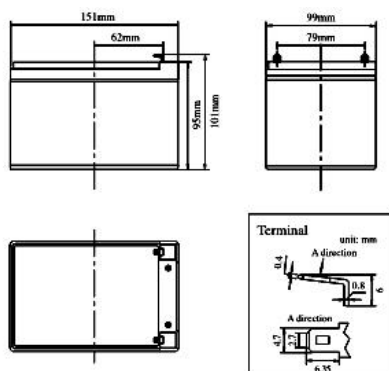
- Fire & Security
- UPS systems & Inverter
- Alarm & Portable lights
- Power tools & Toys
- Emergency Power Systems

COMPLIED STANDARDS



DIMENSIONS & WEIGHT

Length(mm/inch)	152/5.98
Width(mm/inch)	99/3.90
Height(mm/inch)	96/3.78
Total Height(mm/inch)	102/4.02
Weight(kg/lbs)(±3%)	3.5/7.72



TECHNICAL SPECIFICATIONS

Nominal Voltage		12V(6 cells per unit)
Design Floating Life @25°C		5 Years
Nominal Capacity @25°C(20 hour rate@0.60A,10.8V)		12Ah
Capacity @25°C	10hour rate (1.14A,10.8V)	11.4Ah
	5 hour rate (2.14A,10.5V)	10.7Ah
	1 hour rate (8.0A,9.6V)	8.0Ah
Internal Resistance	Full Charged Battery@25°C	≤14.0mΩ
Ambient Temperature	Discharge	-15°C~45°C
	Charge	-15°C~45°C
	Storage	-15°C~45°C
Max.Discharge Current@25°C		72A (5s)
Capacity affected by Temperature (10 hour)	40°C	105%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-Discharge@25°C per Month		3%
Charge (Constant Voltage) @25°C	Standby Use	Initial Charging Current Less than 3.6A Voltage 13.6-13.8V
	Cycle Use	Initial Charging Current Less than 3.6A Voltage 14.4-14.9V

BATTERY DISCHARGE TABEL

Discharge Constant Current per Cell (Amperes at 25°C)

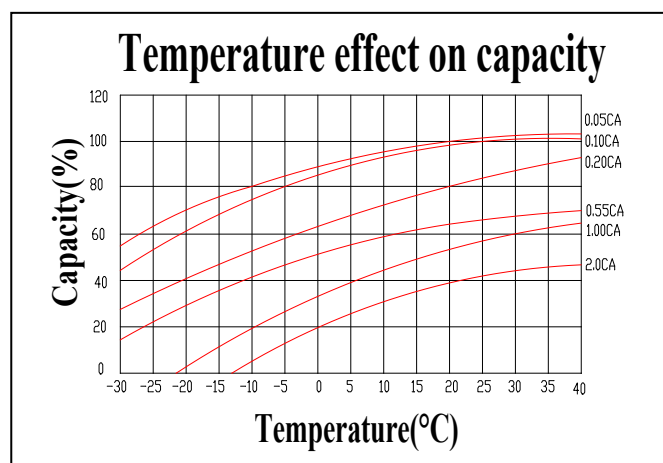
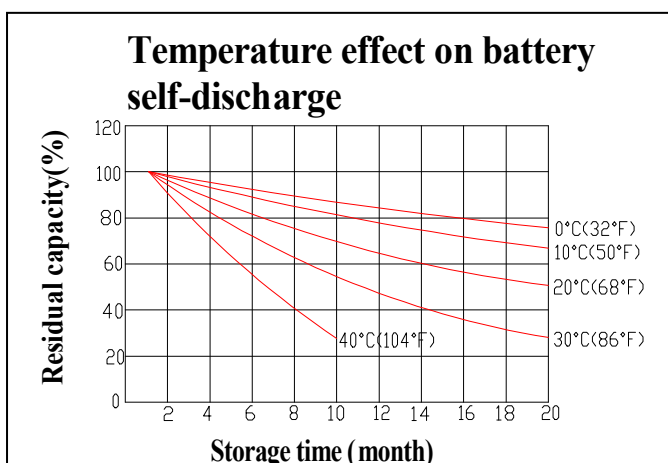
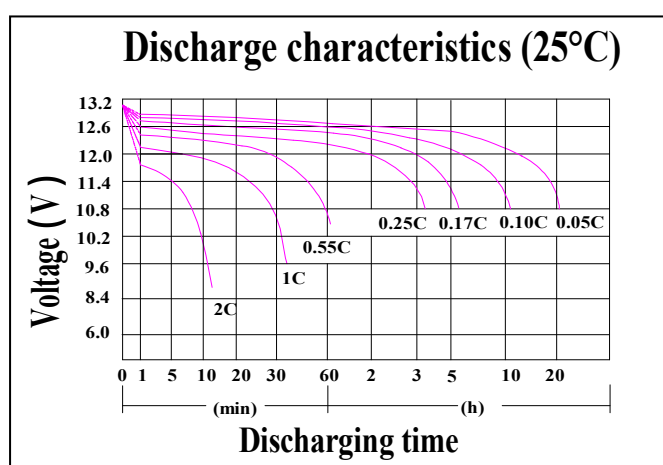
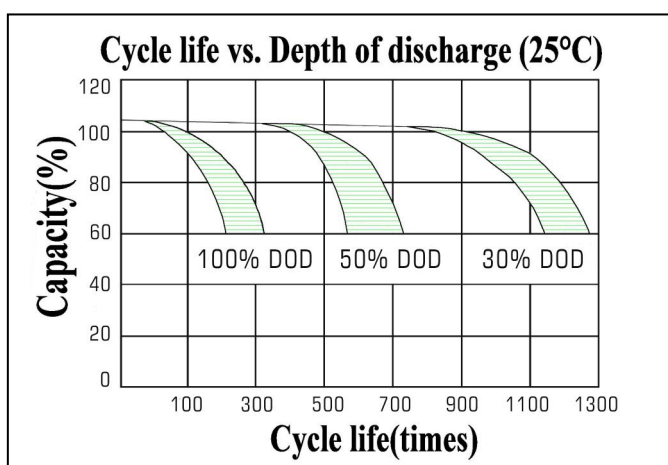
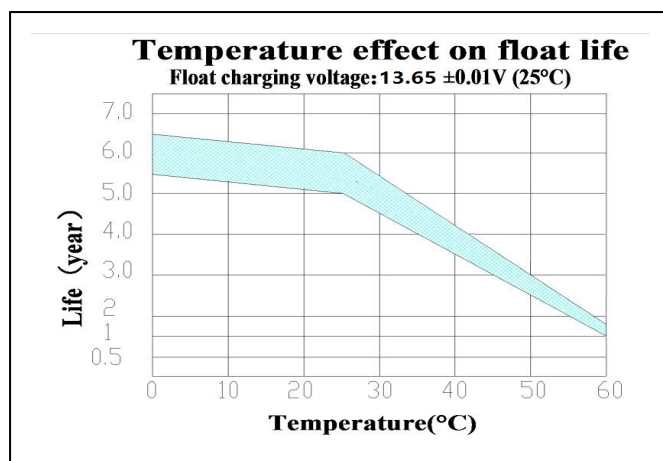
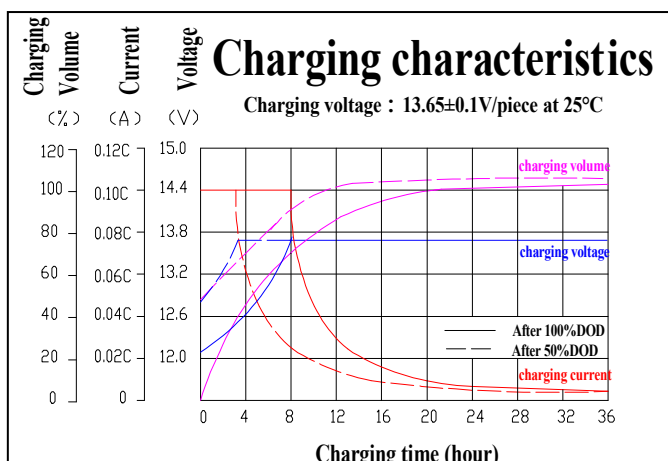
F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h
1.60V	24.2	13.78	9.81	8.00	4.95	3.39	2.26	1.52	1.26	0.66
1.65V	23.5	13.41	9.55	7.73	4.86	3.33	2.22	1.49	1.23	0.65
1.70V	22.9	13.04	9.29	7.45	4.77	3.27	2.18	1.46	1.21	0.64
1.75V	22.2	12.67	9.02	7.18	4.68	3.21	2.14	1.44	1.19	0.62
1.80V	21.6	12.30	8.76	6.90	4.50	3.08	2.06	1.38	1.14	0.60

Discharge Constant Power per Cell (Watts at 25°C)

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h
1.60V	46.6	26.52	18.89	15.41	9.53	6.53	4.35	2.93	2.42	1.27
1.65V	45.3	25.81	18.38	14.88	9.36	6.41	4.27	2.87	2.37	1.25
1.70V	44.1	25.10	17.87	14.35	9.18	6.29	4.20	2.82	2.33	1.22
1.75V	42.8	24.39	17.37	13.81	9.01	6.17	4.12	2.77	2.29	1.20
1.80V	41.6	23.68	16.86	13.28	8.66	5.94	3.96	2.66	2.20	1.16

Note: The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact SM SOLAR for the latest information.

PERFORMANCE CHARACTERISTICS



BATTERY CONSTRUCTION

Component	Positive plate	Negative plate	Container & Cover	Safety valve	Terminal	Separator	Electrolyte	Pillar seal
Features	Thick high Sn low Ca grid with special paste	Balanced Pb-Ca grid for improved recombination efficiency	ABS (UL94-V0)	Flame Si-Rubber and aging resistance	F1/F2	Advanced AGM separator for high pressure cell design	Dilute high purity sulfuric acid	Two layers epoxy resin seal