40602 - 3FM2.8

ONE7 General Battery Series

GB series product is the general Valve Regulated Lead Acid battery with AGM technology. GB series batteries have are widely applied to energy reservation system, traction system, starting devices, emergence system and so on.

Application

- Lighting system
- Security system
- Electric toy
- Medical equipment
- Telecommunication system
- Power systems
- UPS
- Electric tools

General Features

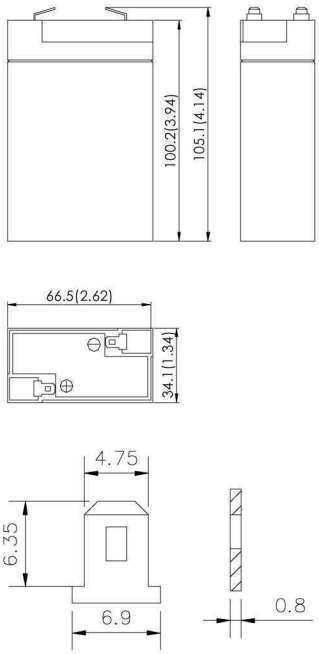
- Maintenance free
- Convenient for installation
- Safety and no leakage
- UL approval
- Excellent recharge and discharge performance
- Low self-discharge rate

Battery Construction

Component	Material
Positive plate	Lead dioxide
Negative plate	Lead
Container	ABS
Cover	ABS
Safety valve	Rubber
Terminal	Copper
Separator	AGM glass
Electrolyte	Sulfuric acid

General Specifications

Battery Model	3FM2.8 (6V2.8AH/20HR)			
Designed Service Life	5 years			
Capacity (25℃)	20HR (0.14A)	10HR (0.26A)	5HR (0.476A)	1HR (1.68A)
	2.8AH	2.60AH	2.38AH	1.68AH
Dimension: mm (inch)	Length	Width	Height	Total Height
	66.5 (2.62)	34.1 (1.34)	100.2 (3.94)	105.1 (4.14)
Approx. Weight	0.57 Kg (1.26 lbs) ±5%			
Internal Resistance	Fully charged at 25℃: 0.021 Ohm			
Self-discharge	3% of capacity declined per month at 25℃			
Capacity Affected by Temp. (20HR)	40℃	25℃	0℃	-15℃
	105%	100%	85%	65%
Charge Voltage (25℃)	Cycle use		Stand-by use	
	7.20-7.50V(-12mV/℃), Max. Current: 0.84 A		6.75-6.90V (-9mV/℃)	



Standard Terminal Dimensions

Constant Current Discharge Data

Constant Current Discharge Data Sheet (Amperes at 25℃)

End Voltage/cell	Minute (s)				Hour (s)				
	5	10	15	30	1	3	5	10	20
1.80	8.21	5.77	4.56	2.65	1.58	0.64	0.43	0.25	0.14
1.75	8.80	6.13	4.83	2.80	1.65	0.67	0.45	0.26	0.14
1.70	9.39	6.50	5.10	2.94	1.73	0.70	0.46	0.27	0.14
1.65	9.95	6.85	5.35	3.07	1.80	0.73	0.48	0.27	0.14
1.60	10.50	7.20	5.60	3.20	1.87	0.75	0.49	0.28	0.15

Constant Power Discharge Data

Constant Power Discharge Data Sheet (Watts at 25℃)

End Voltage/cell	Minute (s)					Hour (s)			
	5	10	15	30	45	1	2	3	5
1.80	15.60	10.80	8.33	4.87	3.42	3.01	1.84	1.32	0.89
1.75	16.80	11.60	8.92	5.19	3.63	3.18	1.92	1.37	0.91
1.70	18.10	12.40	9.51	5.51	3.84	3.35	2.00	1.41	0.93
1.65	19.40	13.20	10.10	5.83	4.04	3.51	2.07	1.45	0.95
1.60	20.70	14.00	10.70	6.13	4.23	3.67	2.13	1.48	0.97

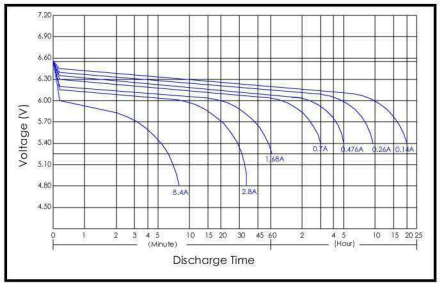
End Voltage

Discharge Rate	Discharge Current	End Voltage（V/cell）
20h	$0.05C_{20}$ A (I_{20})	1.75
10h	$0.09C_{20}$ A (I_{10})	1.75
3h	$0.25C_{20}$ A (I_3)	1.75
1h	$0.60C_{20}$ A (I_1)	1.60

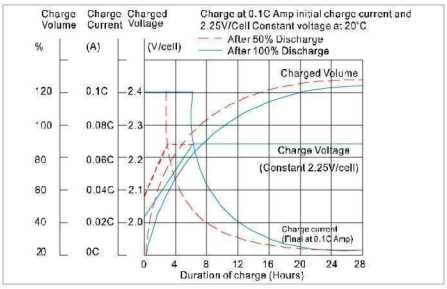
Storage Time VS Charge Time

Storage Time	Top up Charging Recommendation
Less than 6 months from production or previous top up charge	Maximum of 16 hours at a constant voltage of 2.40VPC
Less than 12 months from production or previous top up charge	Maximum of 20 hours at a constant voltage of 2.40VPC
Less than 6 months from production or previous top up charge	Maximum of 8 hours at a constant current of 0.1 C A
Less than 12 months from production or previous top up charge	Maximum of 10 hours at a constant current of 0.1 C A

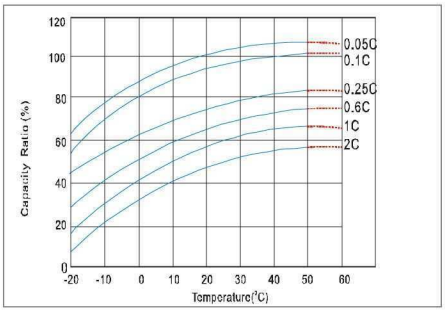
Performance Curves and Charts



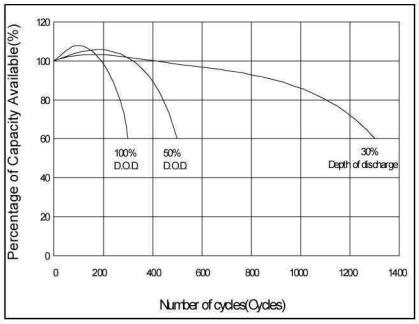
Discharge Characteristic (25℃)



Charge Characteristic (25℃)



Effect of temperature on capacity



Number of cycles Vs. Depth of Discharge