TC12-45-G 12V45Ah/20hr

Design Life: 12 years

Gel battery shows some distinctive advantages over flooded battery or AGM battery, such as super thermal stability, high deep discharge capability, good recovery from deep discharge , even if the battery is left discharged for three days, it will recover to 100% of capacity. With the above-mentioned advantages, the gel battery has long service life, specially suitable for motive power applications, such as golf trailer, sruubber, folklift,etc.The deep discharge cycles increased 50% as compared with the AGM battery.

Battery Construction

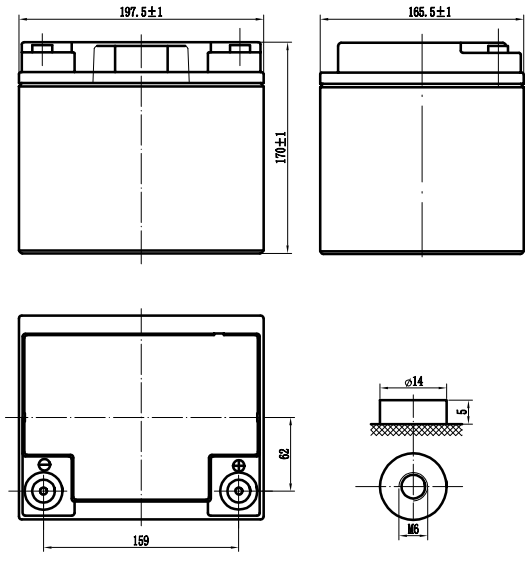
Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	PVC	Gelled acid

General Features

- Nanometer SiO_2 and H_2SO_4 gelled electrolyte technology for efficiency gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.
- Case and cover avaiable in both standard and flame restardant ABS.

Dimensions and Weight

Length(mm / inch)	197.5 / 7.78
Width(mm / inch)	165.5 / 6.52
Height(mm / inch)	170 / 6.69
Total Height(mm / inch)	170 / 6.69
Approx. Weight(Kg / lbs)	14.6 / 32.2



Performance Characteristics

Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77ºF(25ºC)	
20 hour rate(2.25A,10.8V)	45Ah
10 hour rate (4.18A, 10.8V)	41.8Ah
5 hour rate (7.34A, 10.5V)	36.7Ah
1 hour rate (27.6A, 9.6V)	27.6Ah
Internal Resistance	
Fully Charged battery 77ºF(25ºC)	9.0mOhms
Self-Discharge	
2% of capacity declined per month at 20ºC(average)	
Operating Temperature Range	
Discharge	-20~60ºC
Charge	-10~60ºC
Storage	-20~60ºC
Max. Discharge Current 77ºF(25ºC)	500A(5s)
Short Circuit Current	1300A
Charge Methods: Constant Voltage Charge 77ºF(25ºC)	
Cycle use	14.28-14.52V
Maximum charging current	16.5A
Temperature compensation	-20mV/ºC
Standby use	13.38-13.68V
No charge current limit is required	
Temperature compensation	-30mV/ºC

Discharge Constant Current (Amperes at 77ºF25ºC)

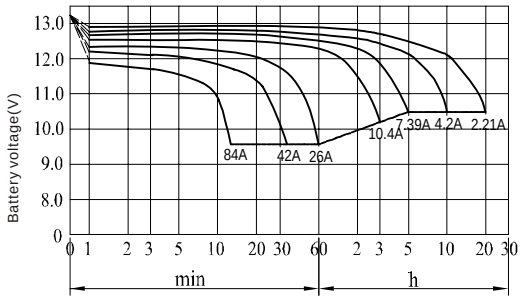
End Point Volts/Cell	5min	10min	15min	30min	45min	1h	3h	5h	10h	20h
1.60V	142	96.0	75.5	44.6	34.3	27.6	11.7	7.76	4.26	2.37
1.65V	129	91.2	72.1	44.4	33.7	27.2	11.5	7.62	4.24	2.33
1.70V	127	86.4	70.8	42.8	31.3	26.8	11.2	7.48	4.22	2.30
1.75V	112	81.6	66.9	38.9	30.6	26.5	11.0	7.34	4.20	2.27
1.80V	108	76.8	64.0	38.0	29.9	26.1	10.8	7.26	4.18	2.25

Discharge Constant Power (Watts at 77ºF25ºC)

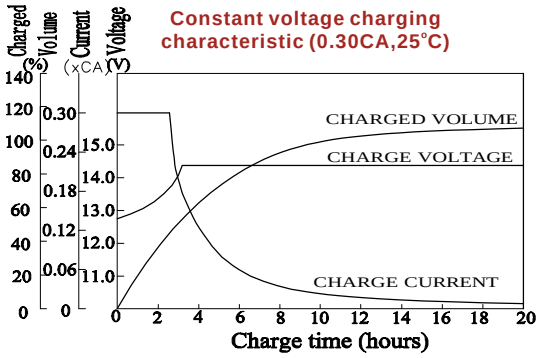
End Point Volts/Cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.60V	250	180	143	96.1	73.1	58.3	32.8	24.3	15.7
1.65V	234	167	136	84.7	66.3	54.0	30.4	22.6	14.7
1.70V	220	159	131	81.7	64.0	53.2	30.0	22.3	14.6
1.75V	201	150	123	79.8	62.8	52.3	29.6	22.1	14.4
1.80V	193	147	122	78.0	61.7	51.5	29.2	21.8	14.1

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

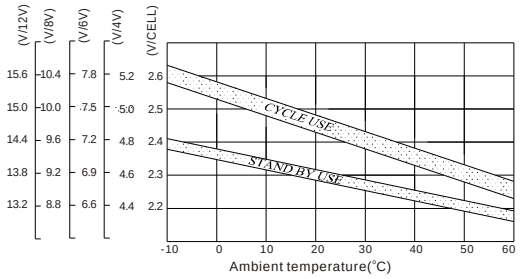
Discharge characteristic (25°C)



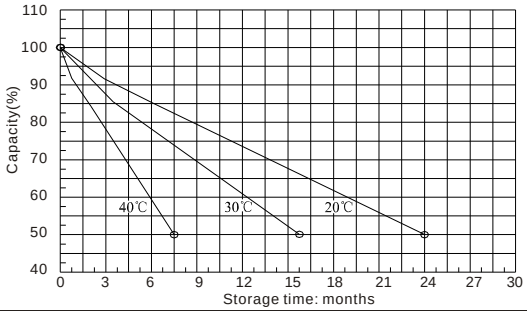
Constant voltage charging characteristic (0.30CA,25°C)



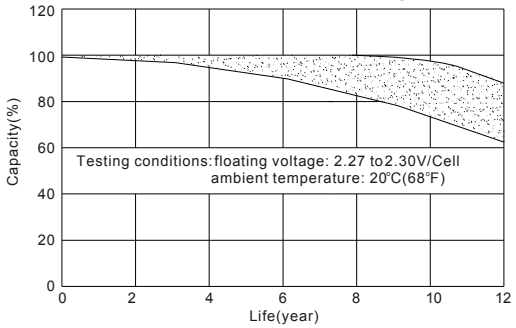
Relationship between charging voltage and temperature



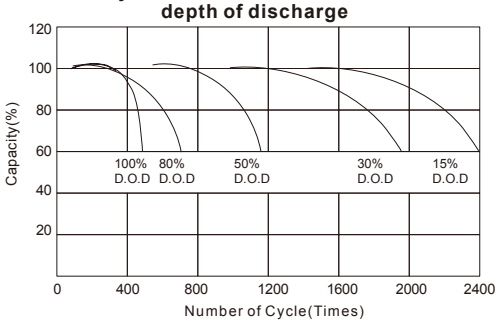
Self-discharge characteristic



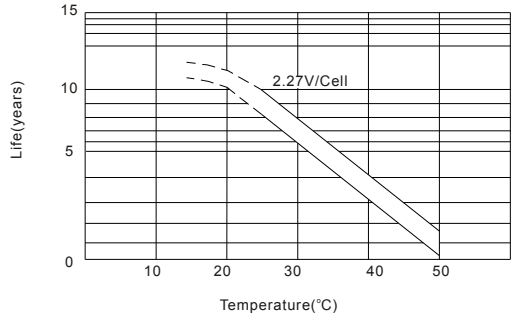
Life characteristics of standby use



Cycle service life in relation to depth of discharge



Temperature effects on float life



Temperature effects on capacity