TC12-180-G (12V180Ah/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

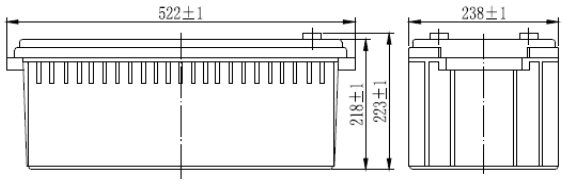
Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	PVC	Gelled acid

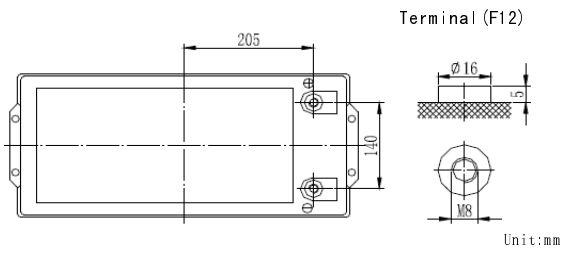
General Feature

- 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.

SPECIFICATION

Nominal voltage ····· 12V
Number of cell ····· 6
Length(mm/inch) ····· 522/20.55
Width(mm/inch ····· 238/9.37
Height(mm/inch) ····· 218/8.58
Total Height(mm/inch) ····· 223/8.78
Approx. Weight (kg/lbs) ····· 57/125.6





Performance Characteristics

Capacity 77°F(25℃)	100 hour rate (2.15A、11.1V)	215Ah
	20 hour rate (9A、10.8V)	180Ah
	10 hour rate (17.5A、10.5V)	175Ah
	1 hour rate (112A、9.6V)	112Ah
Internal Resistance	Full charged Battery77°F(25℃):5.5mΩ	
Operating Temperature Range	Discharge：-20～60℃	
	Charge：-10～60℃	
	Storage：-20～60℃	
Self-Discharge 3% of capacity declined per month at 20℃(average)		
Max. discharge current77°F(25℃): 1000A(5S)		
Charge (Constant Voltage)	Float：13.38～13.68 V/77° F/(25℃)	
	Cycle:14.28～14.52 V/77°F/(25℃) Max. Current：45A	

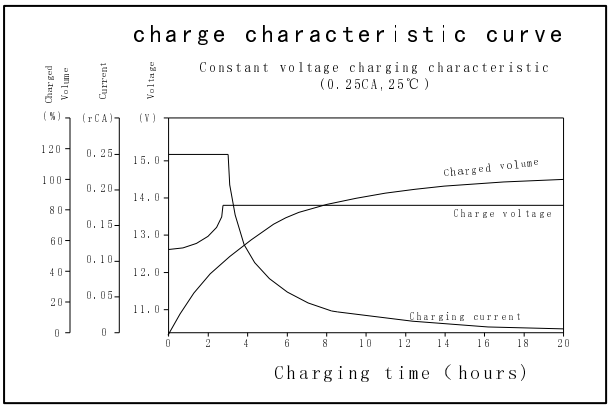
Discharge Constant Current (Amperes at 77° F25 ℃)

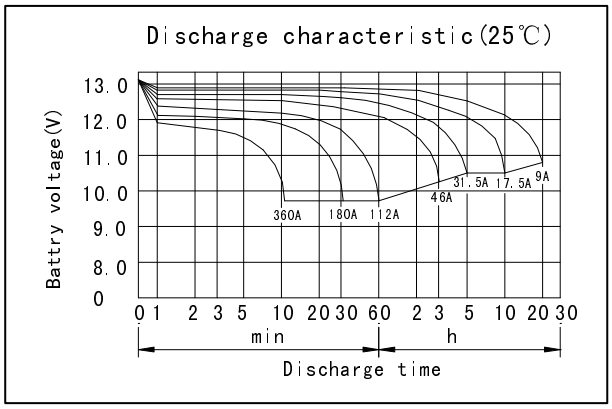
End Point Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60V		383	306	191	112	47.5	33.2	17.9	9.25
1.65V		361	286	184	110	46.8	32.7	17.8	9.20
1.70V		339	267	177	108	46.0	32.2	17.7	9.15
1.75V		315	245	174	106	45.3	31.5	17.5	9.10
1.80V		291	223	167	103	44.3	31.0	17.3	9.00

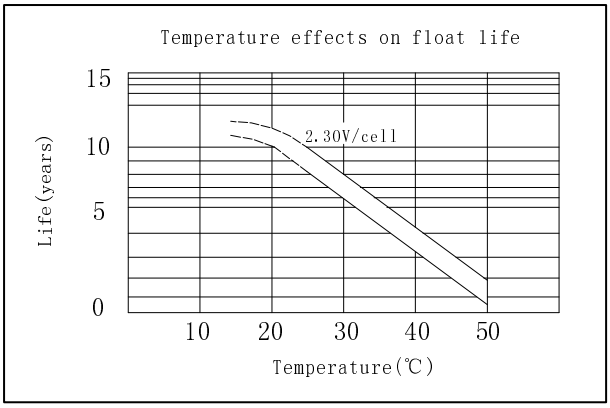
Discharge Constant Power (watts at 77° F 25℃)

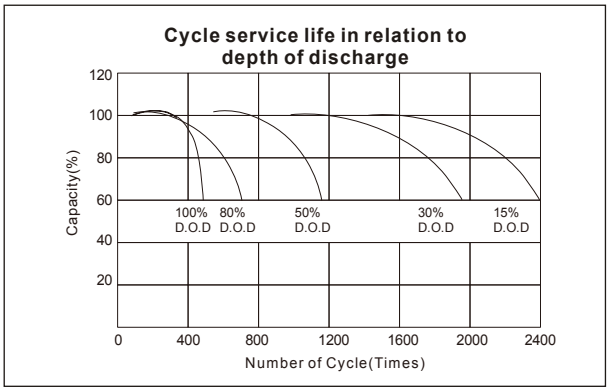
End Point Volts/Cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.60V		611	495	327	236	218	121	85.9	59.9
1.65V		587	477	314	231	215	119	84.8	59.6
1.70V		562	463	303	226	210	116	83.6	59.1
1.75V		534	447	290	222	206	113	82.4	58.8
1.80V		504	412	274	217	201	109	81.5	58.1

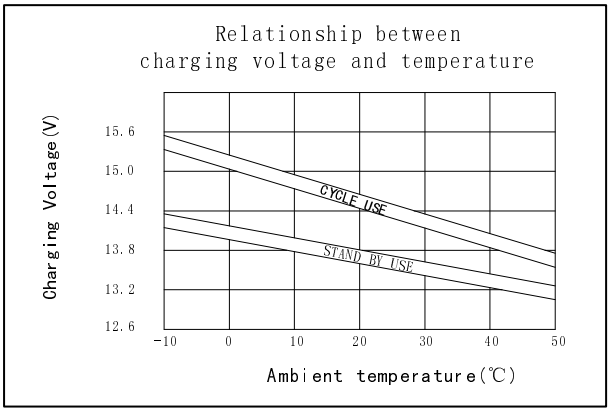
(Note)The above characteristics data are average values obtained Within three charge/discharge cycles not the minimum values.

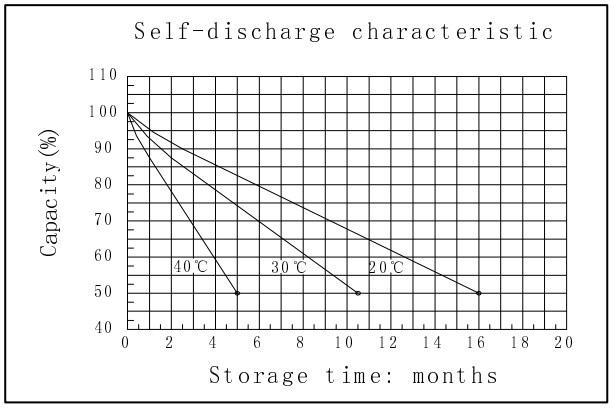

charge characteristic curve
Constant voltage charging characteristic
(0.25CA,25℃)
Charged Volume
Current
Voltage
(%)
(rCA)
(V)
Charged volume
Charge voltage
Charging current
Charging time (hours)

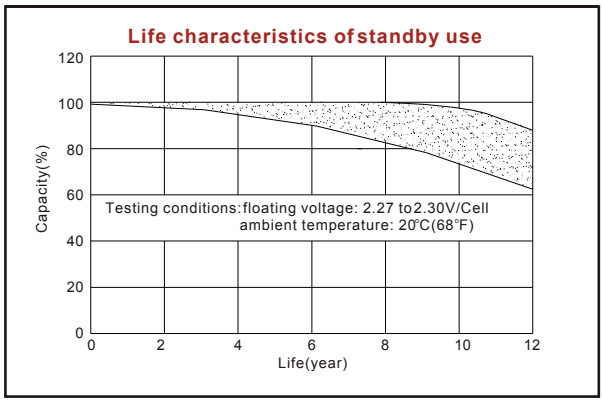

Discharge characteristic(25℃)
Battry voltage(V)
360A
180A
112A
46A
31.5A
17.5A
9A
min
h
Discharge time

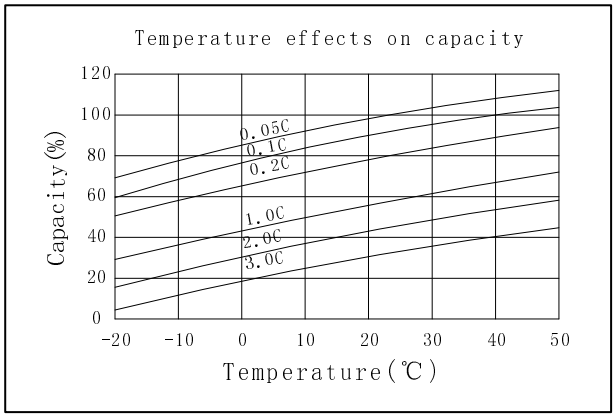

Temperature effects on float life
Life(years)
2.30V/cell
Temperature(℃)


Cycle service life in relation to
depth of discharge
Capacity(%)
100% D.O.D
80% D.O.D
50% D.O.D
30% D.O.D
15% D.O.D
Number of Cycle(Times)


Relationship between
charging voltage and temperature
Charging Voltage(V)
CYCLE USE
STAND BY USE
Ambient temperature(℃)


Self-discharge characteristic
Capacity(%)
40℃
30℃
20℃
Storage time: months


Life characteristics of standby use
Capacity(%)
Testing conditions:floating voltage: 2.27 to2.30V/Cell
ambient temperature: 20℃(68°F)
Life(year)


Temperature effects on capacity
Capacity(%)
0.05C
0.1C
0.2C
1.0C
2.0C
3.0C
Temperature(℃)