

12SB220CL-FR (12V 220Ah)

SPECIFICATIONS

Nominal Voltage (V) 12V

Nominal Capacity

20 hour rate (11.0A to 9.90V)	220.0Ah
10 hour rate (20.8A to 9.90V)	208.0Ah
5 hour rate (39.2A to 9.60V)	196.0Ah
1 hour rate (162A to 9.60V)	162.0Ah

Weight Approx. 68.5kg (151lbs)

Internal Resistance (@1kHz) Approx. 4.2mΩ

Maximum Discharge Current

For 5 seconds 800A

Charging Methods @25°C (77°F)

Cycle Use:

Charging Voltage	14.4V to 15.0V
Coefficient -5.0mV/°C/Cell	
Maximum Charging Current	60A

Standby Use:

Float Charging Voltage	13.50V to 13.80V
Coefficient -3.0mV/°C/Cell	

Design Life 12 years

Operating Temperature Range

Charge	-15°C (5°F)	to	+40°C (104°F)
Discharge	-15°C (5°F)	to	+50°C (122°F)
Storage	-15°C (5°F)	to	+40°C (104°F)

Charge Retention (Shelf Life) @20°C (68°F)

1 month	98%
3 months	94%
6 months	85%

Case Material UL94-V0 Flame Retardant

Terminal F18

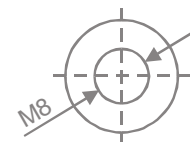
Description of Torque Value of Hard Ware for the Terminals

Recommended Torque Value	M8: 7.35 N-m (75kg-cm)
Max. Allowable Torque Value	M8: 9.8 N-m (100kg-cm)

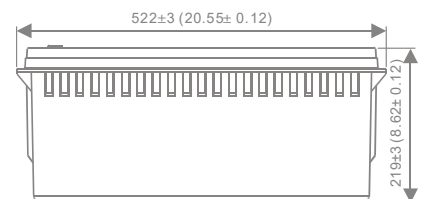
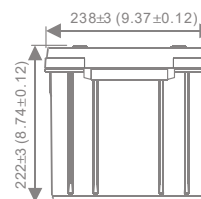
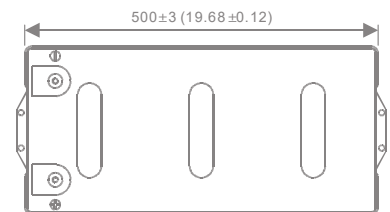


DIMENSIONS

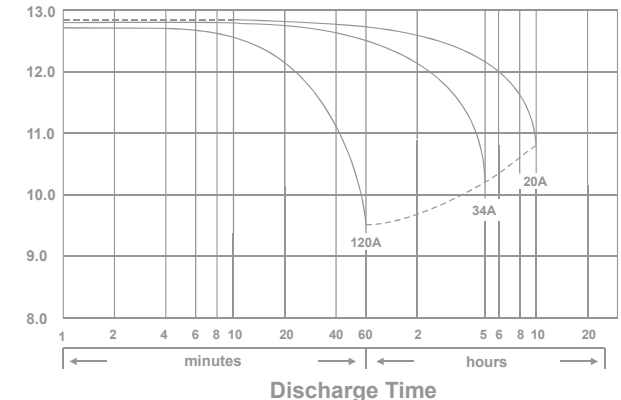
mm (inch)



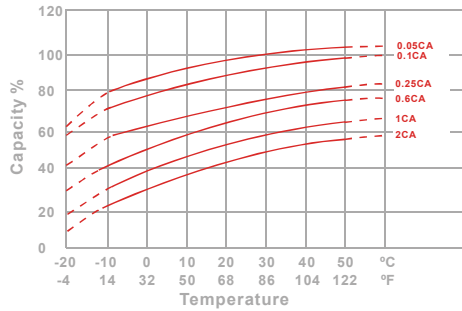
(M8 Bolt)
F18



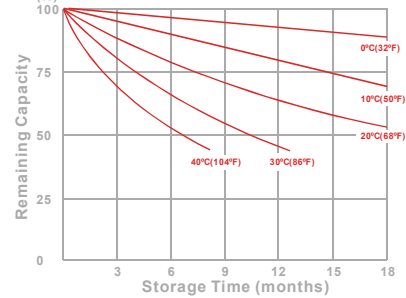
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



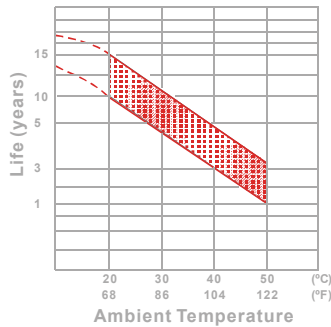
Effect of Temperature on Capacity 25°C(77°F)



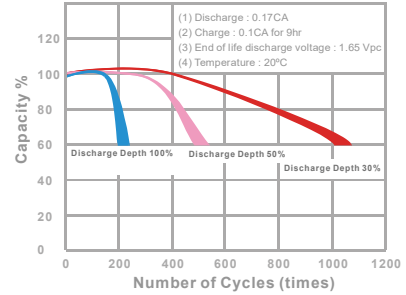
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



- PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C(77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time	min	3845	4238	4487	4714	4825	4948	5147
10	min	3209	3418	3610	3794	3871	3962	4119
15	min	2194	2331	2459	2576	2624	2686	2781
30	min	1322	1392	1451	1505	1523	1546	1583
60	min	689	752	793	827	842	859	881
120	min	552	591	621	648	655	663	674
180	min	483	511	532	546	551	557	565
240	min	423	446	458	465	468	472	477
300	min	226	237	244	248	250	252	255
600	min	122	128	131	133	134	135	136
1200	min							

- Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time	min	339	387	427	458	469	484	507
10	min	292	334	361	385	394	405	419
15	min	210	229	244	258	262	268	276
30	min	128	134	143	150	153	157	162
60	min	66.7	72.0	75.9	79.1	80.2	81.6	83.5
120	min	48.7	52.3	54.7	57.0	57.8	58.7	60.4
180	min	37.9	41.1	43.2	44.9	45.5	46.2	47.6
240	min	31.7	34.1	35.9	37.1	37.6	38.2	39.2
300	min	19.8	20.2	20.4	20.6	20.7	20.8	20.9
600	min	10.2	10.5	10.7	10.8	10.9	11.0	11.1
1200	min							

All data on the spec. sheet is an average value:

The tolerance range : $X < 6\text{min}$ (+15%~-15%), $6\text{min} \leq X < 10\text{min}$ (+12%~-12%), $10\text{min} \leq X < 60\text{min}$ (+8%~-8%), $X \geq 60\text{min}$ (+5%~-5%)

Performance may vary depending on application. All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.