

USL120045-1 (12V4.5Ah)

Specification

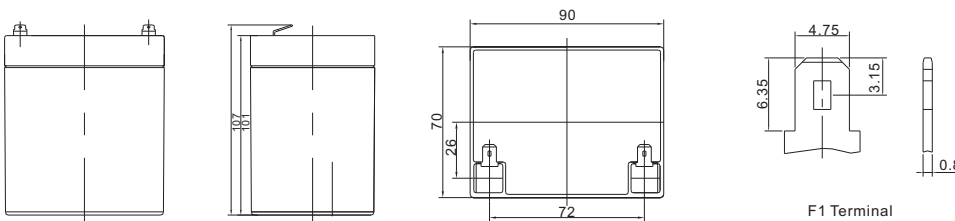
Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	4.5Ah@20hour-rate to 1.75V per cell @25°C
Weight	Approx. 1.30 Kg (Tolerance ±5.0%)
Internal Resistance	Approx. 45 mΩ
Terminal	F1/F2
Max. Discharge Current	45A (5 sec)
Short Circuit Current	234A
Design Life	6~8 years (Float charging)
Max. Charging Current	1.35 A
Reference Capacity	C3 3.48AH C5 3.93AH C10 4.21AH C20 4.50AH
Standby Use Voltage	13.7 V~13.9 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ±5°C
Self Discharge	USB Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



USL series is general purpose battery with 6~8 years design life in float service. It meets with IEC, JIS, BS, GB/T and YD/T standards. With advanced AGM valve regulated technology and high purity raw material, the USL series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.



Dimensions



Length	90±1.5mm (3.54 inches)
Width	70±1.5mm (2.76 inches)
Height	101±1.5mm (3.98 inches)
Total Height	107±1.5mm (4.21 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

Constant Current Discharge Characteristics : A (25°C)

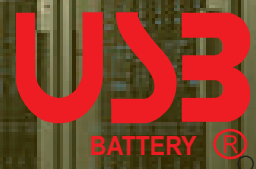
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	17.07	12.07	8.723	5.010	2.749	1.688	1.269	1.025	0.849	0.546	0.444	0.234
1.65V	15.88	11.40	8.339	4.810	2.655	1.634	1.230	0.997	0.827	0.540	0.438	0.231
1.70V	14.33	10.50	7.811	4.597	2.569	1.580	1.196	0.970	0.805	0.532	0.432	0.228
1.75V	12.83	9.609	7.268	4.394	2.475	1.525	1.161	0.945	0.785	0.525	0.426	0.225
1.80V	11.27	8.698	6.711	4.200	2.380	1.471	1.125	0.918	0.765	0.516	0.421	0.223
1.85V	8.945	7.108	5.569	3.617	2.135	1.347	1.040	0.853	0.713	0.484	0.396	0.212

Constant Power Discharge Characteristics : WPC (25°C)

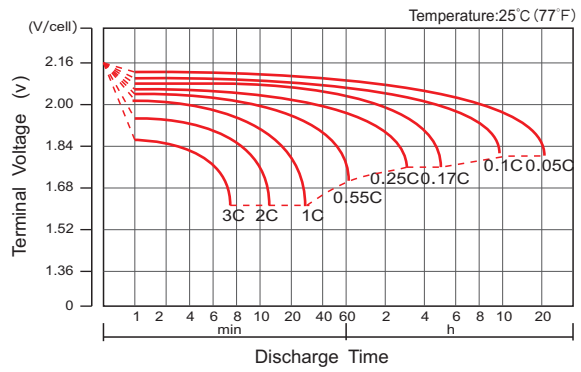
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	28.30	20.51	15.25	9.100	5.167	3.199	2.424	1.967	1.636	1.067	0.872	0.461
1.65V	26.62	19.76	14.79	8.828	5.018	3.112	2.359	1.921	1.600	1.057	0.863	0.455
1.70V	24.57	18.52	14.06	8.522	4.885	3.026	2.305	1.876	1.564	1.043	0.851	0.450
1.75V	22.50	17.26	13.28	8.229	4.735	2.934	2.246	1.835	1.529	1.031	0.841	0.445
1.80V	20.18	15.90	12.43	7.945	4.580	2.843	2.185	1.788	1.495	1.016	0.831	0.441
1.85V	16.35	13.22	10.46	6.911	4.133	2.619	2.029	1.668	1.399	0.956	0.783	0.419

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C₂₀ should reach 95% after the first cycle and 100% after the third cycle.

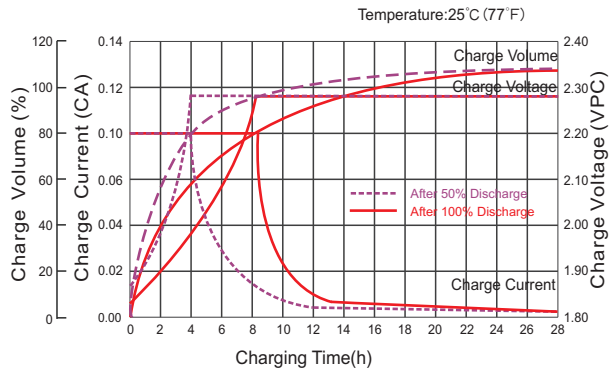
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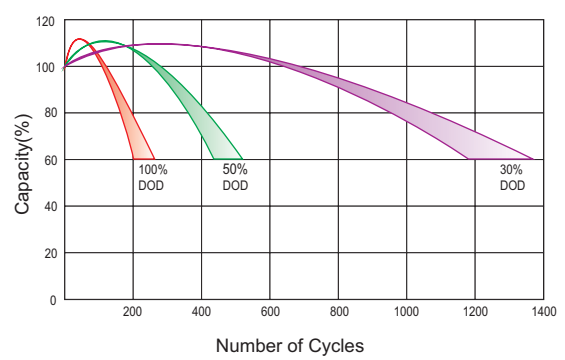
Discharge Characteristics Curve



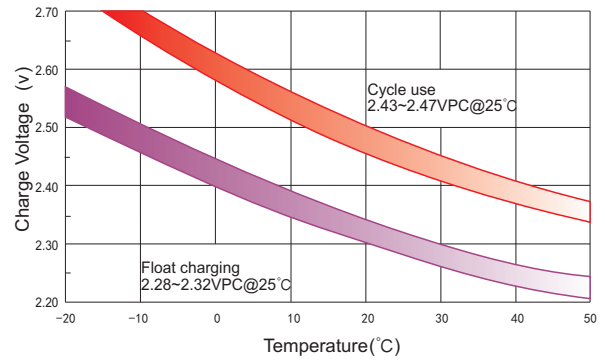
Charge Characteristic Curve For Standby Use



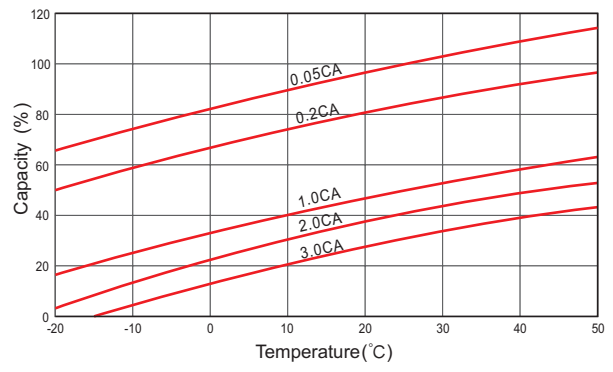
Cycle Life In Relation To Depth Of Discharge



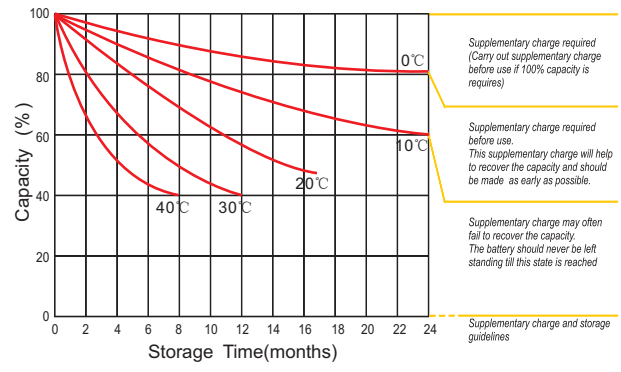
Relationship Between Charging Voltage And Temperature



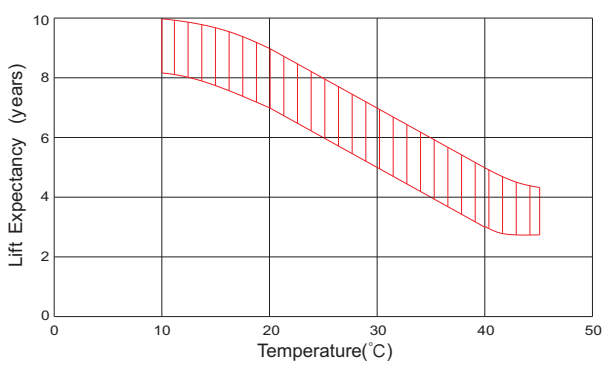
Temperature Effects On Capacity



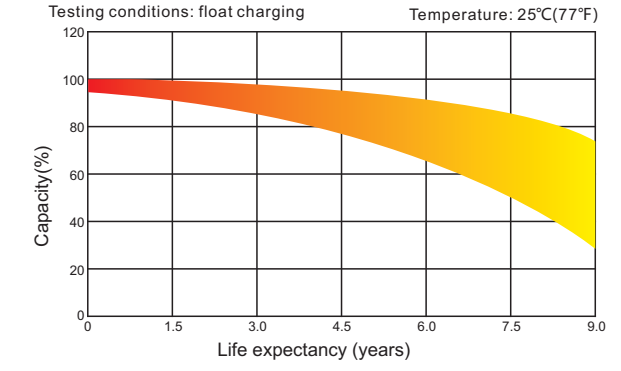
Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice, USB reserves the right to explain and update the latest information.