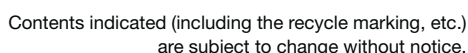


For main power supplies.
Cycle long life type.



Technical drawings of the battery case resin, including top, side, and detail views.

Top View: Shows the overall dimensions of the battery case. The total width is 179.5 mm, and the total height is 167 ± 2 mm. The internal width is 112.7 mm, and the internal height is 11.8 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm.

Side View: Shows the side profile of the battery case. The total height is 22 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm.

Detail View (L): Shows the detail of the battery case resin. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm.

Detail View (A): Shows the detail of the battery case resin. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm.

Terminal type (option): Shows the terminal type (option) for the battery case resin. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm. The distance between the two battery cells is 1.7 mm.

Battery case resin: standard (UL94HB)

Nominal voltage		12V
Nominal capacity (20 hour rate)		22Ah
Dimensions	Length	181mm
	Width	76mm
	Height	167mm
	Total Height	167mm
Approx. mass		6.55kg
Terminal		M5 threaded post Bolt and Nut type

Capacity (25°C)	20 hour rate 10 hour rate 5 hour rate 1 hour rate	22.0Ah 19.5Ah 17.5Ah 13.0Ah
Internal resistance	Fully charged battery (25°C)	12mΩ
Temperature dependency of capacity (20 hour rate)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self discharge (25°C)	After 3 months	91%
	After 6 months	82%
	After 12 months	64%

The graph illustrates the relationship between discharge current and duration for a battery at various temperatures. The x-axis represents the discharge current in Amperes (A) on a logarithmic scale from 0.3 to 100. The y-axis represents the duration of discharge, with a scale from 1 to 30 hours and 1 to 60 minutes. Four lines are plotted for temperatures of 40°C, 25°C, 0°C, and -15°C. The lines show that for a given duration, the discharge current increases with temperature. For a given current, the duration increases with temperature.

Temperature (°C)	Duration (hours)	Discharge Current (A)
40	30	1.2
40	10	2.5
40	3	5.0
40	1	10.0
25	30	1.0
25	10	2.0
25	3	4.0
25	1	8.0
0	30	0.8
0	10	1.6
0	3	3.2
0	1	6.4
-15	30	0.6
-15	10	1.2
-15	3	2.4
-15	1	4.8

Cut-off V	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	10h	20h	24h
9.6V	618	472	396	295	213	170	117	93.2	69.4	53.3	44.0	35.4	24.0	13.0	10.8
9.9V	605	469	389	292	211	170	115	92.5	69.0	53.0	43.7	35.2	23.9	13.0	10.8
10.2V	590	459	383	289	209	167	112	90.1	68.3	52.6	43.3	35.0	23.6	12.9	10.8
10.5V	546	427	363	282	206	163	110	87.0	67.3	52.3	43.0	34.5	23.5	12.9	10.7
10.8V	487	399	354	272	203	160	107	82.8	65.9	51.6	41.9	34.0	23.3	12.8	10.7

Cut-off V	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	10h	20h	24h
9.6V	59.4	43.0	36.7	25.4	18.8	14.5	9.79	7.55	5.85	4.48	3.69	2.96	2.05	1.11	0.926
9.9V	58.2	42.7	36.1	25.1	18.7	14.5	9.59	7.49	5.82	4.45	3.66	2.95	2.04	1.11	0.923
10.2V	56.7	41.8	35.5	24.8	18.5	14.2	9.40	7.30	5.76	4.42	3.63	2.93	2.02	1.10	0.920
10.5V	52.6	38.9	33.7	24.3	18.2	13.9	9.20	7.05	5.68	4.39	3.60	2.89	2.01	1.10	0.917
10.8V	46.9	36.3	32.8	23.4	17.9	13.6	8.95	6.71	5.56	4.33	3.51	2.84	1.99	1.09	0.911

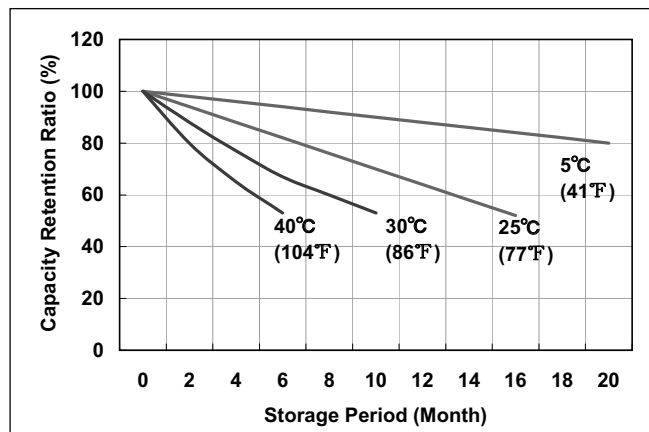
Charging Method

Cycle Use	Control voltage 14.5 - 14.9V; Initial current 8.8A or smaller
-----------	---

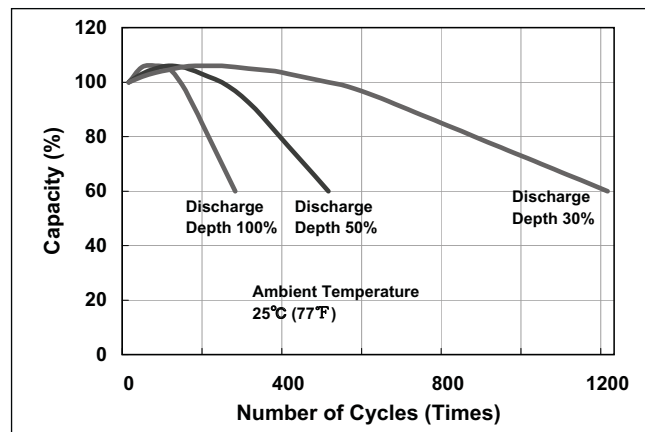
Cut off voltage

Discharge current	1.1A - 4.4A	4.4A - 11A	11A - 22A	22A - 44A	44A - 66A
Cut off voltage (V)	10.5	10.2	9.9	9.3	8.7

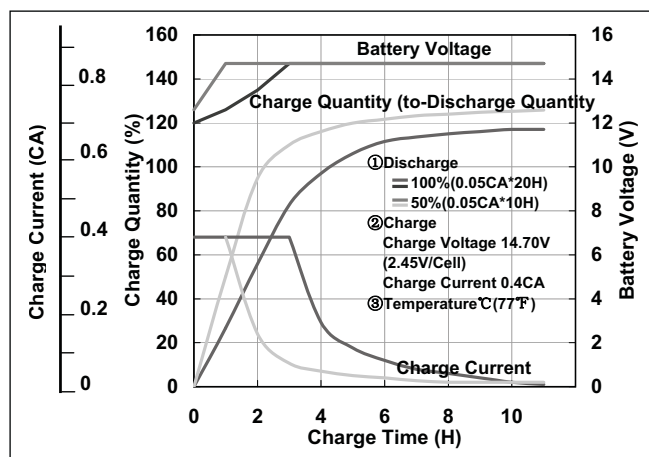
Residual capacity test result



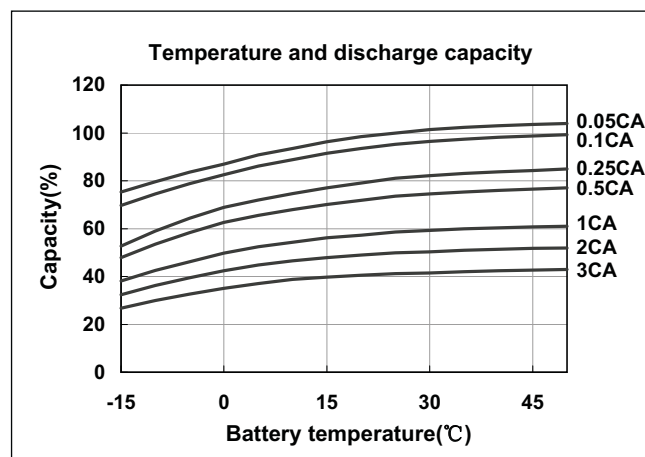
Cycle life vs. Depth of discharge



Constant-voltage and constant-current charge characteristics



Discharge capacity by temperature and by discharge current



Discharge characteristics (25°C)

