

# UL9-12

12V 9AH

General



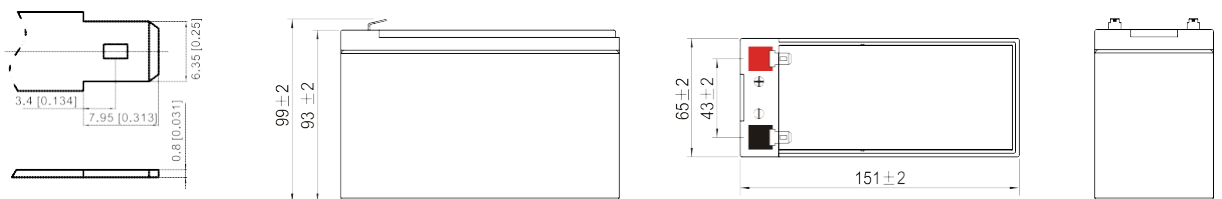
Physical Specification	
Part Number	UL9-12
Length	151 ± 2 mm
Width	65 ± 2 mm
Container Height	93.5 ± 2 mm
Total Height (with terminal)	99 ± 2 mm
Approx Weight	2.45 kg

## Specifications

	Nominal Voltage	12V
	Nominal Capacity (20HR)	9AH
Terminal Type	Standard Terminal	F2
	Optional Terminal	F1
Container Material	Standard Option	ABS
	Flame Retardant Option (FR)	ABS (UL94:VO)
Rated Capacity	20hr, 1.80V/cell, 25°C	9.00 AH/0.425A
	10hr, 1.80V/cell, 25°C	8.37 AH/0.791A
	5hr, 1.75V/cell, 25°C	7.22 AH/1.45A
	1hr, 1.60V/cell, 25°C	5.34 AH/5.34A
Max Discharge Current	127.5A (5s)	
Internal Resistance	Approx 18mΩ	
Discharge Characteristics	Operating Temp. Range	Discharge: -15 ~ 50°C
		Charge: 0 ~ 40°C
		Storage: -15 ~ 40°C
	Nominal Operating Temp. Range	25 ± 3°C
	Cycle Use	Initial Charging Current less than 2.55A. Voltage 14.4V ~ 15.0V Temp. Coefficient -30mV/°C
	Standby Use	No limit on Initial Charging Current Voltage 13.5V ~ 13.8V Temp. Coefficient -20mV/°C
Capacity affect by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Design Floating Life at 20°C	5 Years	
Self Discharge	Ultracell batteries may be stored for up to 6 months at 25°C(77°F) and then a refresh charge is required. For higher temperatures the time interval will be shorter.	

## Dimensions

### F2 Terminal



Revised: 08 Oct 2014

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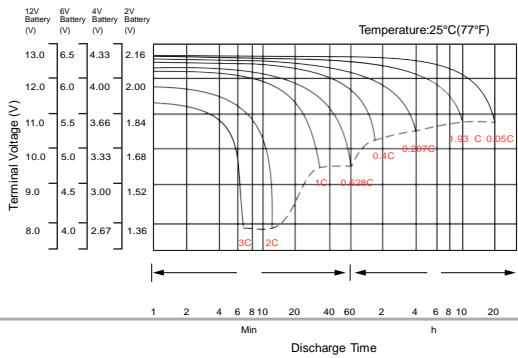
### Constant Current Discharge (Amperes) at 25°C

F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	19.6	13.9	11.7	9.92	7.41	5.50	4.40	2.62	1.95	1.58	1.33	1.15	0.911	0.753	0.415
1.80V/cell	23.4	16.0	13.1	10.9	8.11	5.93	4.73	2.80	2.07	1.67	1.40	1.21	0.961	0.793	0.425
1.75V/cell	26.1	17.4	14.1	11.6	8.45	6.15	4.90	2.88	2.12	1.70	1.43	1.23	0.978	0.806	0.434
1.70V/cell	28.5	18.8	14.8	12.1	8.77	6.36	5.04	2.96	2.17	1.74	1.45	1.25	0.992	0.816	0.439
1.65V/cell	30.9	19.8	15.4	12.5	9.06	6.56	5.20	3.01	2.22	1.76	1.48	1.27	1.003	0.825	0.443
1.60V/cell	32.6	20.6	15.9	12.8	9.32	6.72	5.31	3.08	2.25	1.80	1.50	1.29	1.013	0.832	0.446

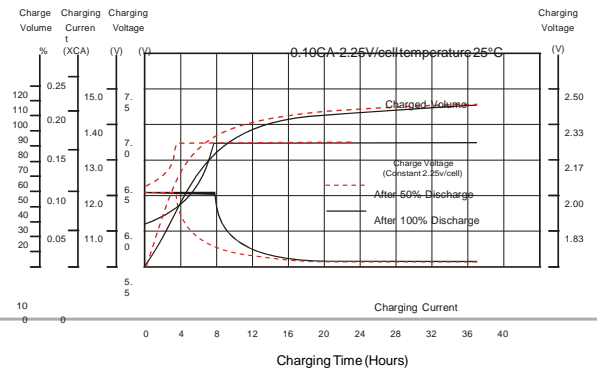
### Constant Power Discharge (Watts) at 25°C

F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	29.6	23.0	19.2	16.8	13.1	9.75	8.25	4.91	3.86	3.14	2.57	2.24	1.81	1.52	0.834
1.80V/cell	39.3	29.0	22.9	19.5	15.2	11.2	9.19	5.32	4.13	3.34	2.75	2.39	1.92	1.56	0.841
1.75V/cell	43.4	31.3	24.7	20.8	15.7	11.6	9.57	5.50	4.18	3.40	2.81	2.45	1.94	1.60	0.848
1.70V/cell	46.4	33.4	26.0	21.7	16.2	12.0	9.84	5.62	4.29	3.49	2.88	2.49	1.97	1.63	0.863
1.65V/cell	50.5	35.7	27.4	22.9	17.0	12.2	9.99	5.67	4.46	3.59	2.95	2.54	2.00	1.66	0.873
1.60V/cell	54.4	37.9	28.9	24.1	17.8	12.6	10.0	5.89	4.57	3.69	3.03	2.59	2.01	1.68	0.877

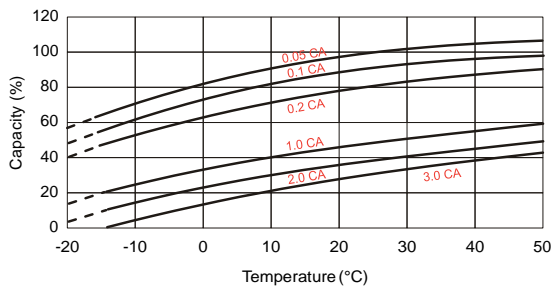
### Discharge Characteristics



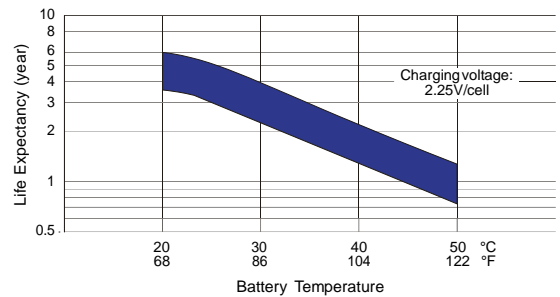
### Float Charging Characteristics



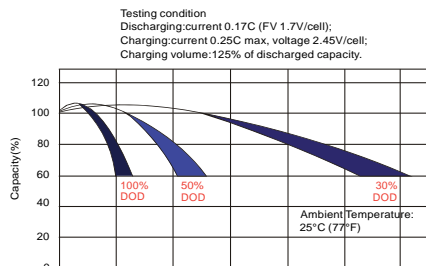
### Temperature Effects in Relation to Battery Capacity



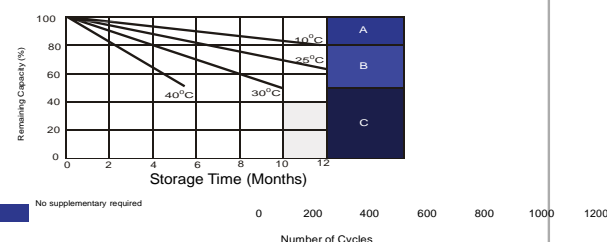
### Effect of Temperature on Long Term Float Life



### Cycle Life in Relation to Depth of Discharge



### General Relation of Capacity VS. Storage Time



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12V 9AH

General

Ultracell®  
Quality in Every Lead-Acid

(Carryout supplementary charge before use if 100% capacity is required.)

Supplementary charge required before use. Optional charging way as below:  
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
3. Charged for 8 - 10 hours at limited current 0.05 CA.

Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.