

UL9-12

12V 9AH
General

Ultracell®

'Quality in Every Language'

UL9-12



Physical Specification

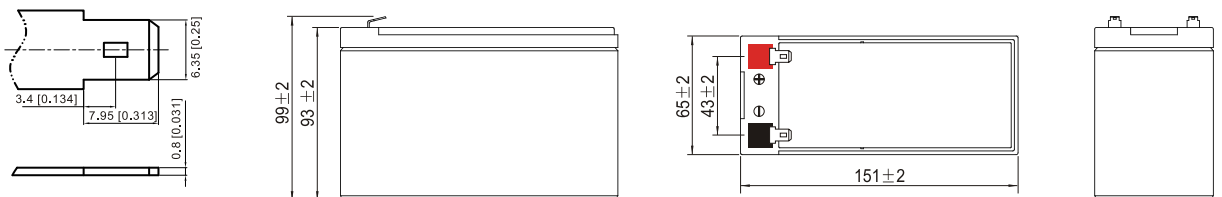
Part Number	UL9-12
Length	151 ± 2 mm
Width	65 ± 2 mm
Container Height	93.5 ± 2 mm
Total Height (with terminal)	99 ± 2 mm
Approx Weight	2.45 kg

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

ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE

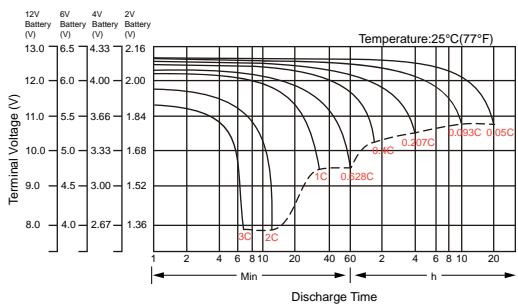
Constant Current Discharge (Amperes) at 20°C

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	16.2	12.4	10.3	8.90	6.88	5.07	4.27	2.53	1.98	1.61	1.31	1.14	0.918	0.767	0.421
1.80V/cell	21.7	15.9	12.4	10.5	8.12	5.90	4.79	2.76	2.13	1.72	1.41	1.22	0.973	0.791	0.425
1.75V/cell	24.5	17.5	13.6	11.3	8.43	6.12	5.01	2.86	2.17	1.76	1.45	1.25	0.990	0.812	0.429
1.70V/cell	27.0	19.0	14.5	11.9	8.78	6.36	5.17	2.93	2.23	1.80	1.48	1.28	1.004	0.828	0.437
1.65V/cell	29.7	20.5	15.4	12.6	9.26	6.52	5.29	2.98	2.32	1.86	1.52	1.31	1.020	0.845	0.443
1.60V/cell	32.8	22.3	16.5	13.5	9.78	6.80	5.34	3.10	2.39	1.92	1.57	1.34	1.030	0.854	0.445

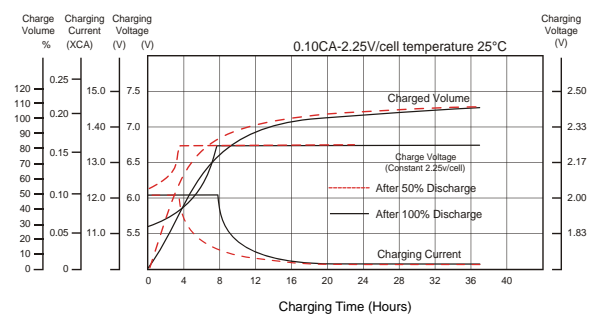
Constant Power Discharge (Watts) at 20°C

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

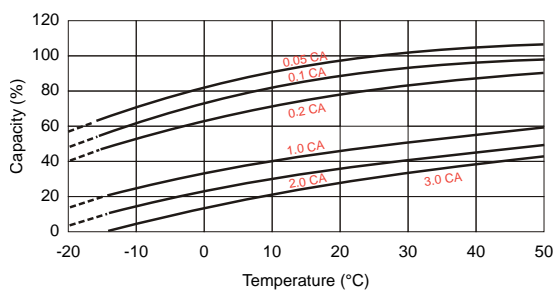
Discharge Characteristics



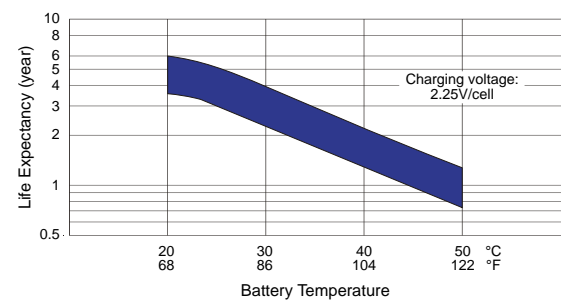
Float Charging Characteristics



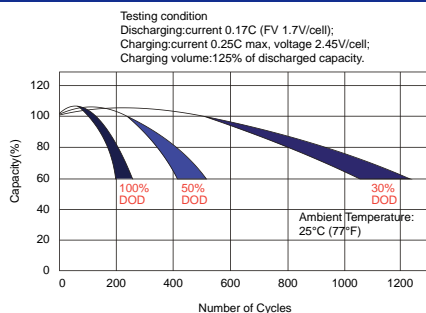
Temperature Effects in Relation to Battery Capacity



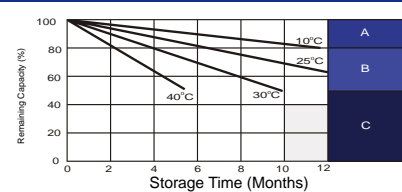
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



General Relation of Capacity VS. Storage Time



- A** No supplementary required
(Carryout supplementary charge before use if 100% capacity is required.)
- B** 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 2.25V/cell.
3. Charged for 8 - 10 hours at limited current 0.05 CA.
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.