

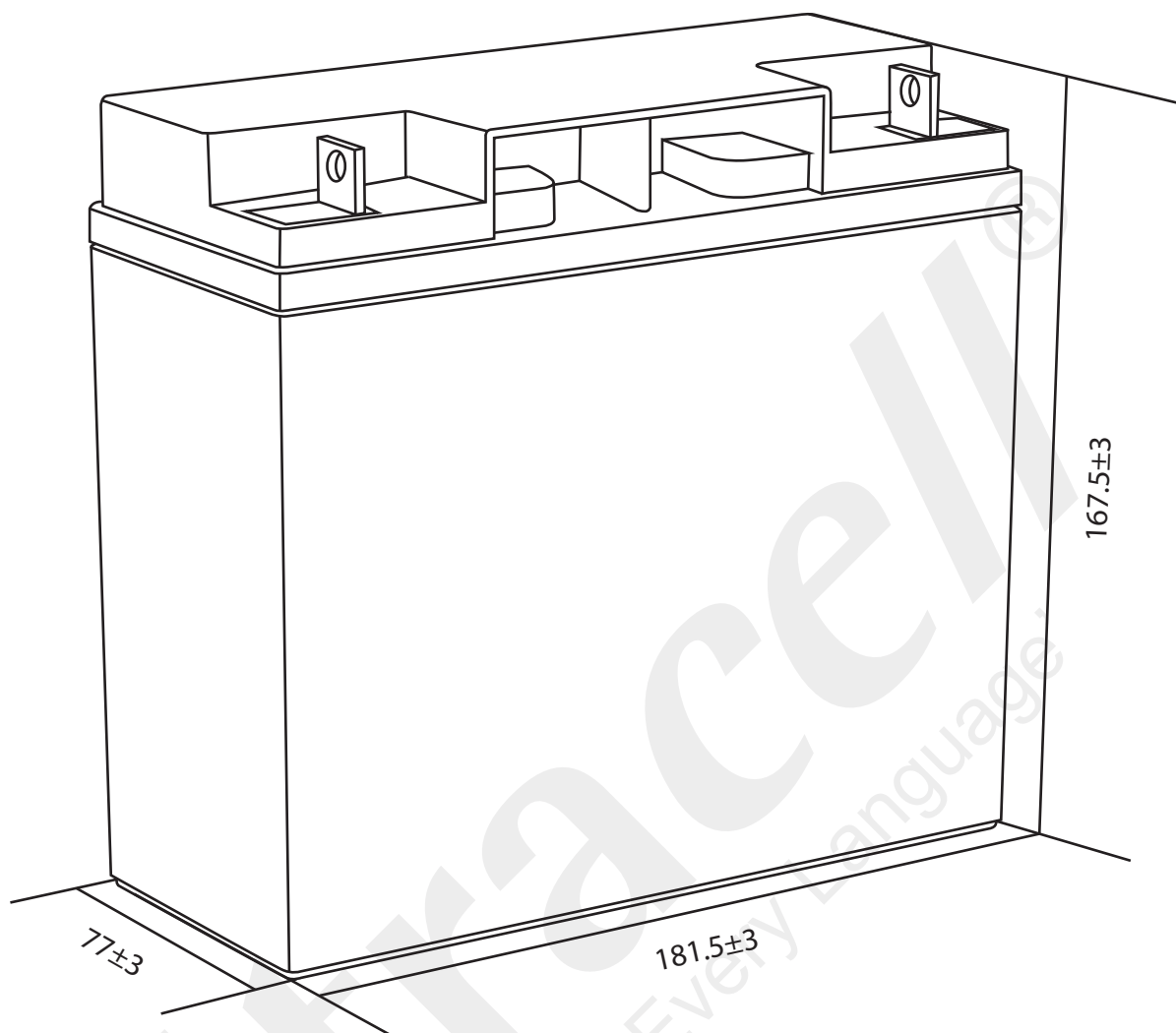
# Ultracell®

'Quality in Every Language'

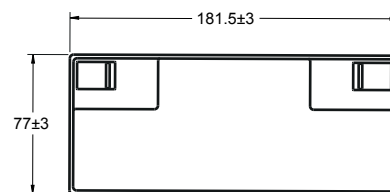
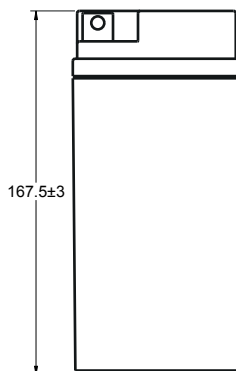
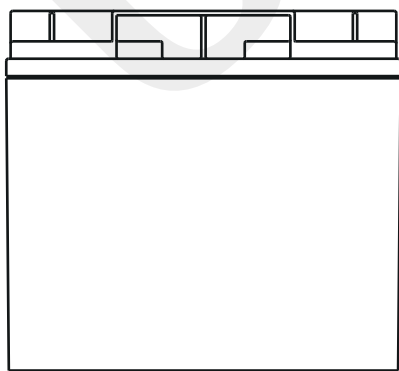
UL18-12

12V 18Ah

General Series



## Technical Dimensions (mm)



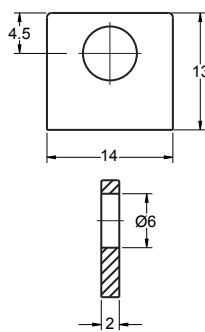


Image

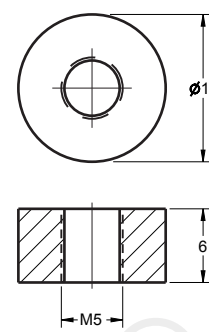


Terminal Dimensions (mm)

Standard Terminal: F3



Optional Terminal: F12



Technical Specification

<b>Output</b>	Nominal Voltage	12V
	Nominal Capacity (20HR)	18Ah
<b>Terminal Type</b>	Standard Terminal	F3
	Optional Terminal	F12
<b>Container Material</b>	Standard Option	ABS
	Flame Retardant Option (FR)	ABS (UL94:VO)
<b>Rated Capacity</b>	(20HR 1.75V/cell, 25°C)	18.0 Ah/0.9A
	(10HR 1.75V/cell, 25°C)	17.0 Ah/1.7A
	(5HR 1.75V/cell, 25°C)	15.5 Ah/3.1A
	(3HR 1.75V/cell, 25°C)	13.6 Ah/4.52A
	(1HR 1.60V/cell, 25°C)	11.2 Ah/11.2A
<b>Max Discharge Current</b>	270A (5s)	
<b>Internal Resistance</b>	Approx 16mΩ	
<b>Discharge Characteristics</b>	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 5.4A. Voltage 14.4V ~ 15.0V @ 25°C Temp. Coefficient -30mV/°C
	Standby Use	Initial Charging Current less than 5.4A. Voltage 13.5V ~ 13.8V @ 25°C Temp. Coefficient -20mV/°C
	Capacity affected by Temperature	40°C 103% 25°C 100% 0°C 86%
<b>Design Floating Life at 20°C</b>	5 Years	

Self Discharge

Ultracell® UL batteries may be stored for up to 6 months at 25°C and then a refresh charge is required. For higher temperatures the time intervals will be shorter.

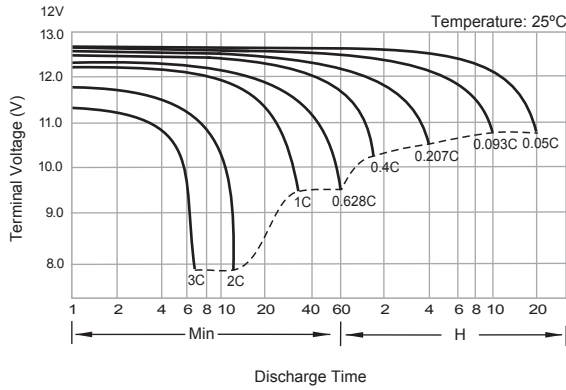
Constant Current Discharge / Constant Power Discharge At 25°C (Amperes & Watts/Cell)

A = Amperes W = Watts

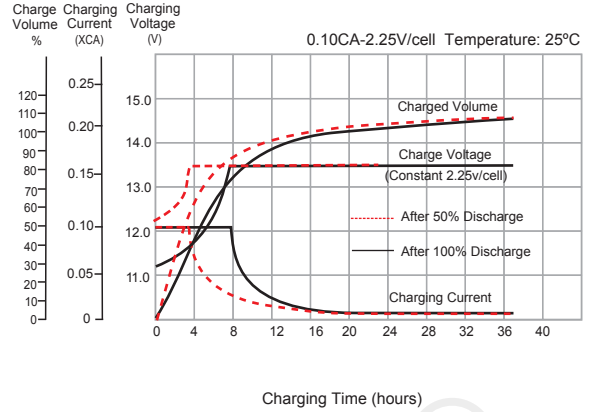
F.V/TIME	5 min	10 min	15 min	20 min	30 min	45 min	60 min	90 min	2 hours	3 hours	4 hours	5 hours	6 hours	8 hours	10 hours	20 hours
1.85V/cell	49.1	33.7	26.2	21.9	16.6	12.3	10.2	7.5	6.0	4.37	3.52	3.02	2.58	2.03	1.66	0.880
1.80V/cell	93.0	64.1	50.2	42.1	32.1	23.8	19.8	14.7	11.7	8.59	6.94	5.95	5.11	4.03	3.31	1.76
1.75V/cell	52.8	35.7	27.5	22.7	17.1	12.6	10.4	7.7	6.1	4.44	3.57	3.06	2.62	2.06	1.69	0.890
1.70V/cell	99.0	67.5	52.4	43.6	32.9	24.4	20.2	15.0	11.9	8.72	7.03	6.03	5.18	4.09	3.35	1.78
1.67V/cell	55.7	37.1	28.4	23.4	17.5	12.9	10.6	7.8	6.2	4.52	3.62	3.10	2.65	2.09	1.70	0.900
1.60V/cell	103.2	69.7	53.8	44.5	33.6	24.8	20.5	15.2	12.1	8.83	7.12	6.10	5.23	4.13	3.38	1.80
1.60V/cell	58.3	38.6	29.4	24.0	18.0	13.2	10.8	8.0	6.3	4.58	3.67	3.14	2.68	2.11	1.72	0.907
1.60V/cell	107.0	72.0	55.2	45.6	34.3	25.3	20.8	15.4	12.2	8.95	7.20	6.17	5.29	4.17	3.41	1.81
1.60V/cell	60.3	39.7	30.1	24.5	18.3	13.4	11.0	8.1	6.4	4.63	3.71	3.17	2.71	2.12	1.73	0.914
1.60V/cell	109.8	73.6	56.4	46.4	34.8	25.6	21.1	15.6	12.4	9.02	7.26	6.22	5.33	4.20	3.43	1.83
1.60V/cell	64.0	41.4	31.1	25.3	18.8	13.7	11.2	8.2	6.5	4.71	3.77	3.22	2.75	2.15	1.75	0.924
1.60V/cell	114.2	75.8	57.9	47.6	35.6	26.1	21.5	15.9	12.6	9.17	7.37	6.30	5.40	4.25	3.47	1.85



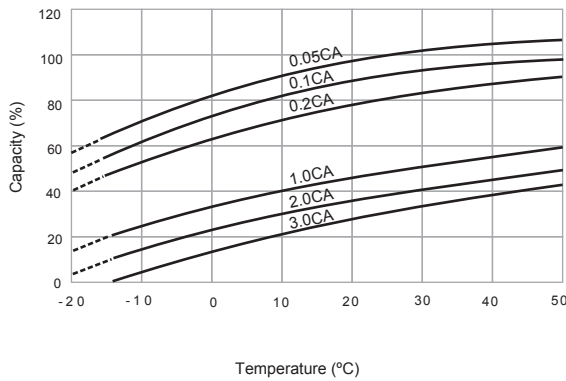
**Discharge Characteristics**



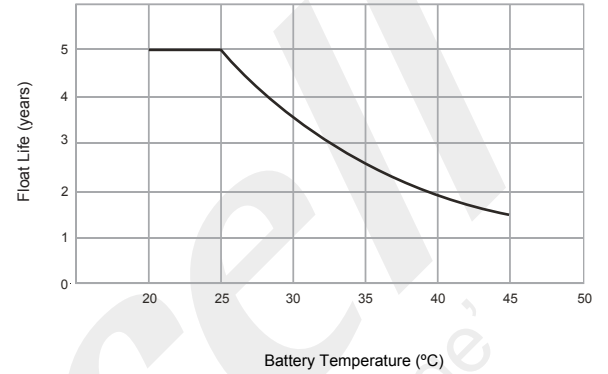
**Float Charging Characteristics**



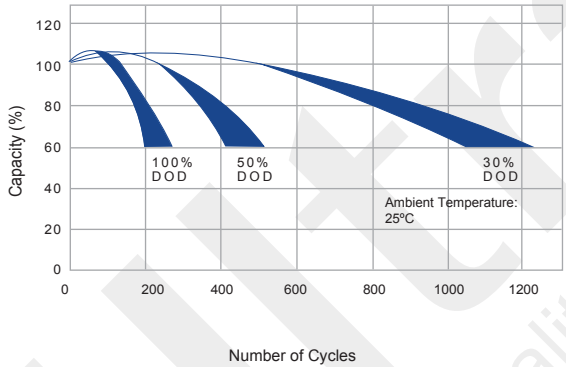
**Temperature Effects in Relation to Battery Capacity**



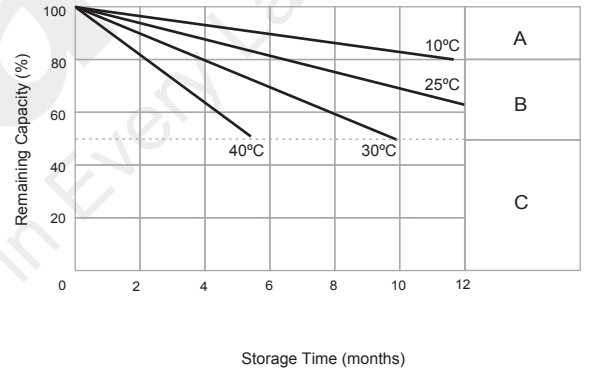
**Effects of Temperature on Long Term Float Life**



**Cycle Life in Relation to Depth of Discharge**



**General Relation of Capacity vs. Storage Time**



**General Relation of Capacity vs. Storage Time (Notes)**

- A) No supplementary charge 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.