

# Ultracell®

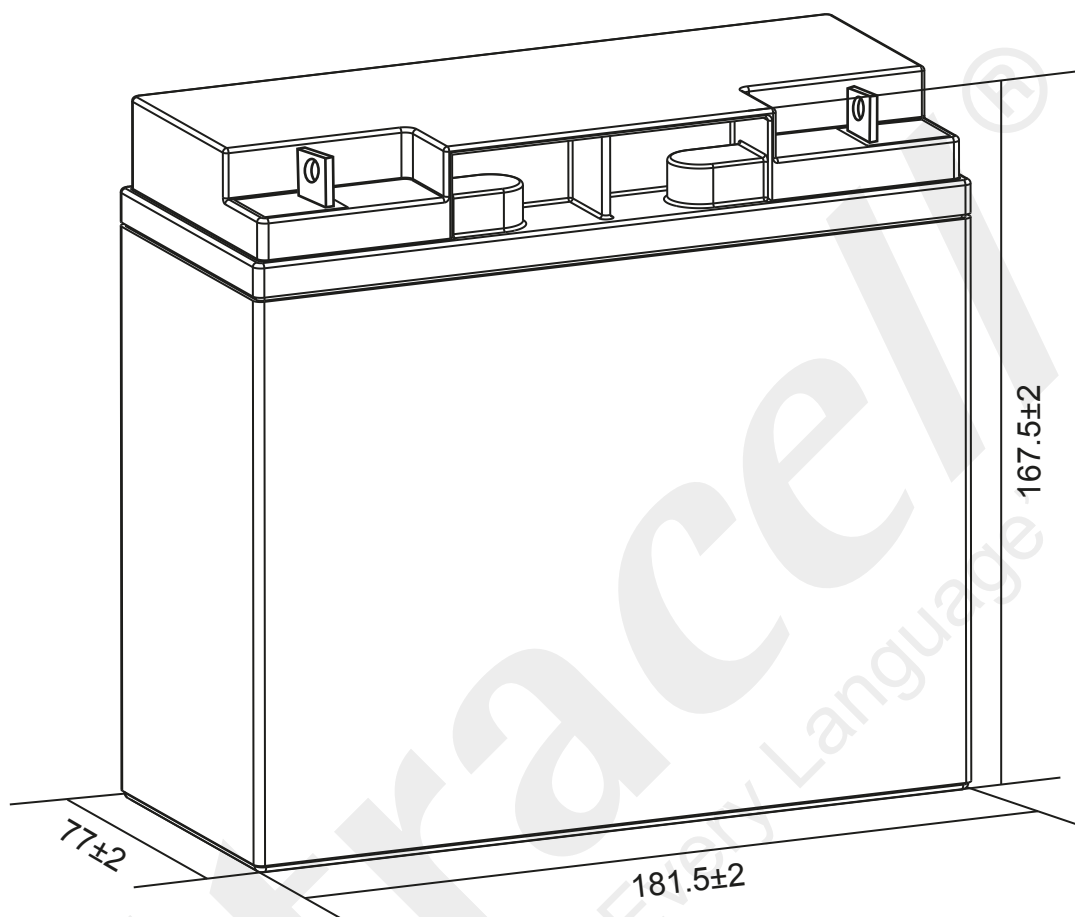
'Quality in Every Language'

UC18-12

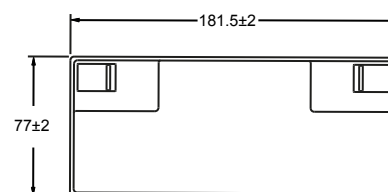
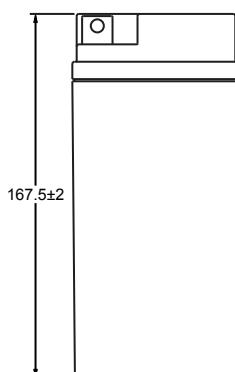
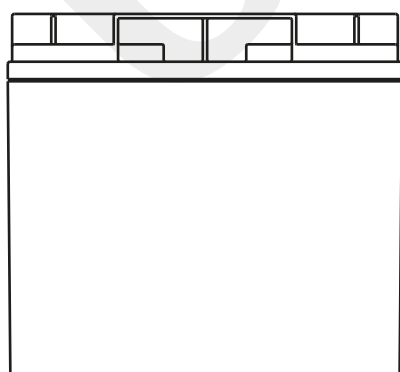
12V 18Ah (C<sub>20</sub>)

12V 21Ah (C<sub>100</sub>)

Deep Cycle Series



## Technical Dimensions (mm)



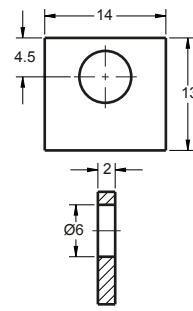


Image



Terminal Dimensions (mm)

Standard Terminal: F3



Technical Specification

<b>Output</b>	Nominal Voltage	12V
	Nominal Capacity (10HR)	18Ah
<b>Terminal Type</b>	Standard Terminal	F3
<b>Container Material</b>	Standard Option	ABS
	Flame Retardant Option (FR)	ABS (UL94:VO)
<b>Rated Capacity</b>	(100HR 1.80V/cell, 25°C)	21 Ah/0.21A
	(20HR 1.80V/cell, 25°C)	18 Ah/0.900A
	(10HR 1.80V/cell, 25°C)	17.2 Ah/1.72A
	(5HR 1.75V/cell, 25°C)	15.8 Ah/3.16A
	(3HR 1.75V/cell, 25°C)	14.3 Ah/4.77A
	(1HR 1.60V/cell, 25°C)	11.6 Ah/11.6A
<b>Max Discharge Current</b>	270A (5s)	
<b>Internal Resistance</b>	Approx 15.0mΩ	
<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	No limit on initial charging current. 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>	12 Years	

Self Discharge

Ultracell® UC 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.

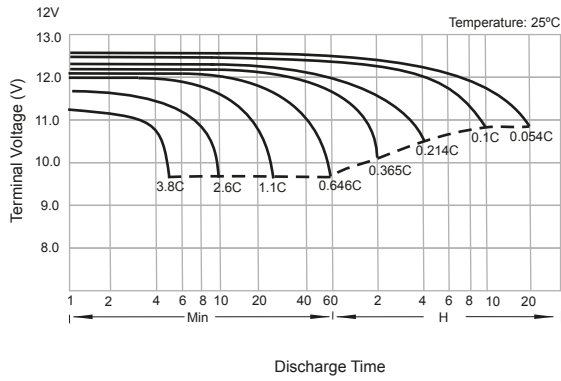
Constant Current Discharge / Constant Power Discharge At 25°C (Amperes & Watts/Cell)

A = Amperes W = Watts

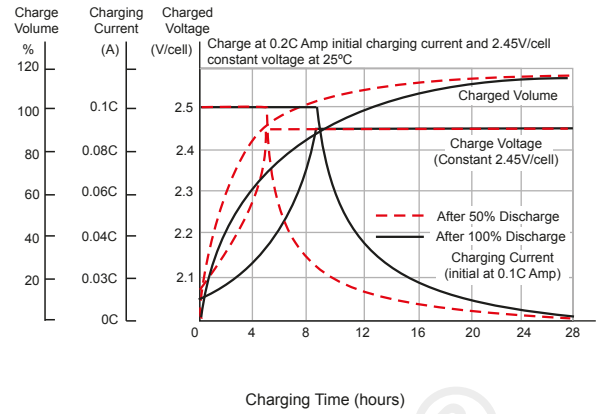
F.V/TIME	10 min	15 min	20 min	30 min	45 min	60 min	2 hours	3 hours	4 hours	5 hours	6 hours	8 hours	10 hours	20 hours
1.85V/cell	26.4	22.2	19.4	13.9	11.1	8.99	5.58	4.35	3.53	2.87	2.50	2.04	1.70	0.856
1.80V/cell	49.2	41.8	36.9	26.8	21.4	17.4	10.9	8.50	6.90	5.63	4.94	4.04	3.37	1.91
1.75V/cell	37.0	29.3	24.6	17.1	13.4	10.5	6.32	4.77	3.85	3.16	2.75	2.20	1.82	0.974
1.70V/cell	67.3	53.8	45.9	32.3	25.5	20.2	12.2	9.25	7.48	6.17	5.41	4.34	3.60	1.94
1.65V/cell	40.3	31.2	25.9	17.8	13.9	10.9	6.57	4.90	3.95	3.24	2.81	2.23	1.84	0.992
1.60V/cell	72.3	57.1	47.9	33.5	26.5	20.8	12.7	9.49	7.67	6.31	5.52	4.40	3.63	1.98
1.55V/cell	43.5	33.2	27.5	18.8	14.2	11.2	6.75	5.11	4.09	3.33	2.87	2.27	1.87	1.004
1.50V/cell	77.5	60.3	50.7	35.1	27.0	21.5	13.0	9.86	7.91	6.48	5.63	4.47	3.70	2.00
1.45V/cell	47.3	35.5	29.3	19.8	14.9	11.6	6.98	5.27	4.22	3.44	2.94	2.29	1.89	1.010
1.40V/cell	82.7	63.7	53.4	36.7	27.9	22.0	13.3	10.1	8.13	6.66	5.74	4.50	3.74	2.01



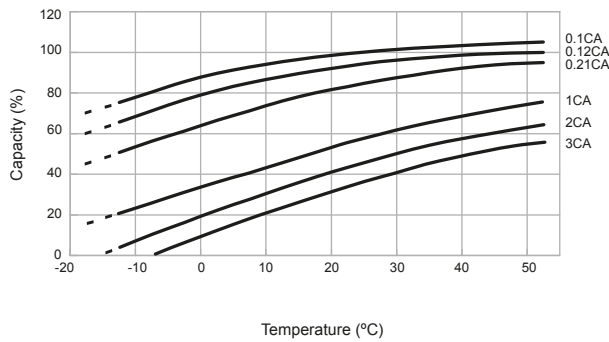
## Discharge Characteristics



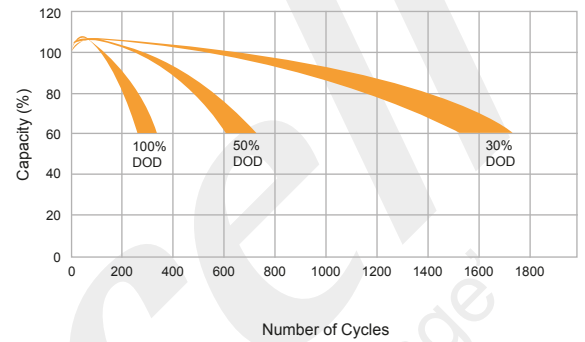
## Float Charging Characteristics



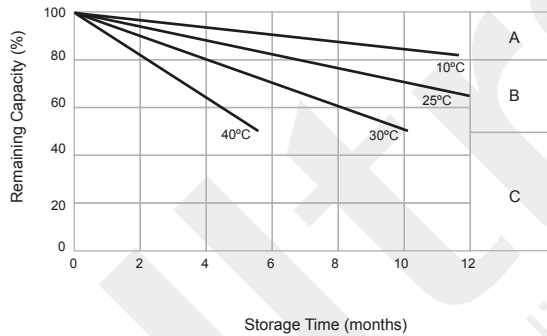
## Temperature Effects in Relation to Battery Capacity



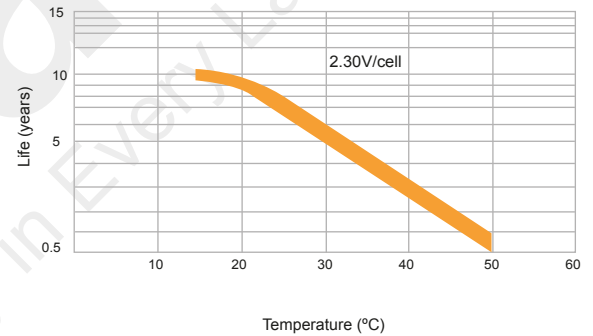
## Cycle Life in Relation to Depth of Discharge



## General Relation of Capacity vs. Storage Time



## Floating Life on Temperature



## 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.