

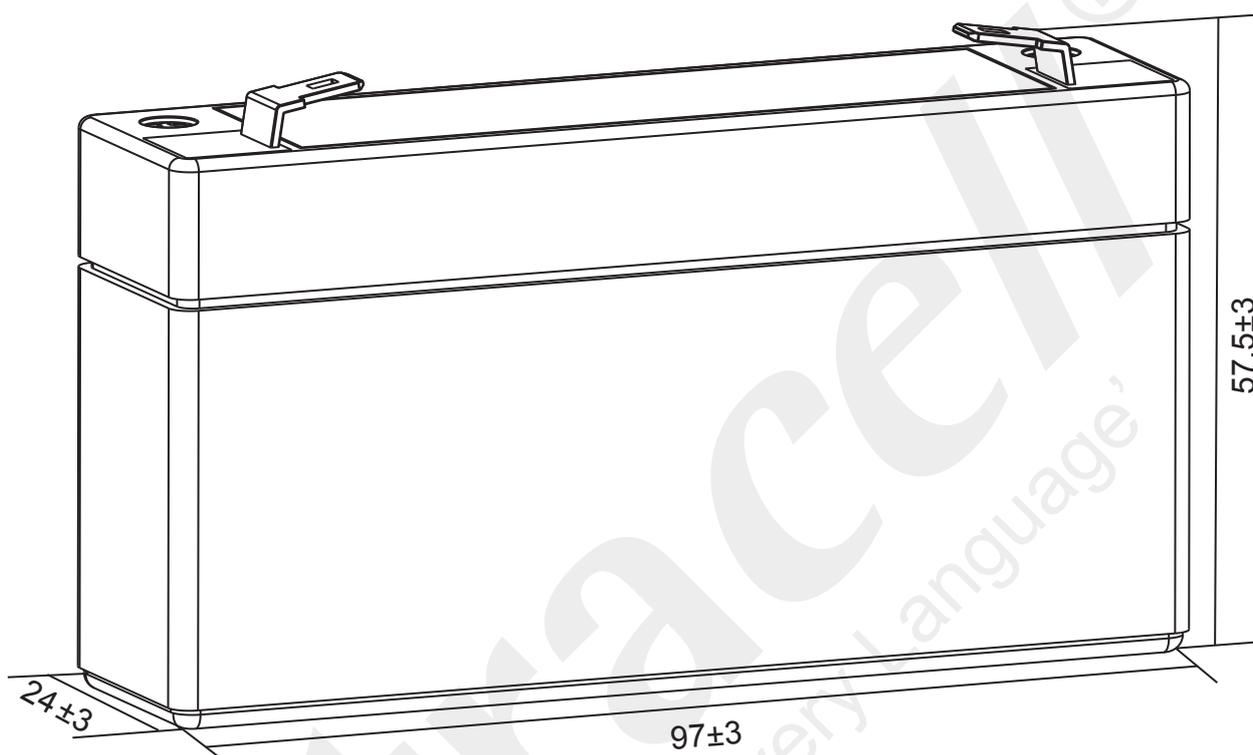
Ultracell®

'Quality in Every Language'

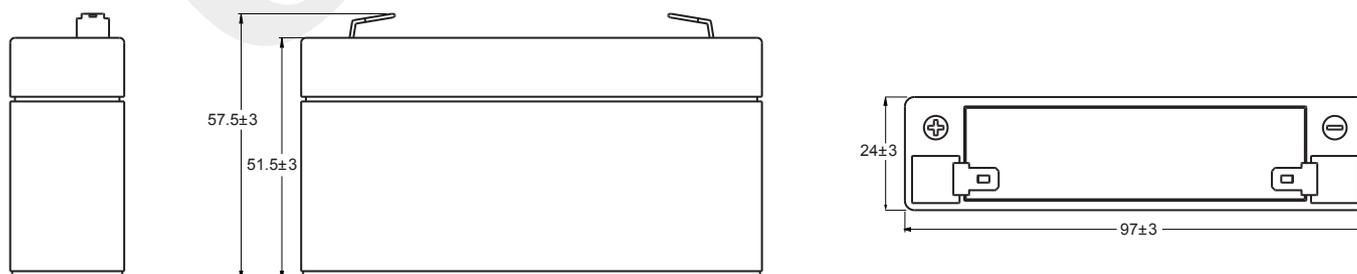
UL1.3-6

6V 1.3Ah

General Series



Technical Dimensions (mm)

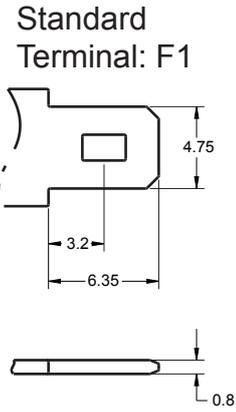




Image



Terminal Dimensions (mm)



Technical Specification

| | | |
|-------------------------------------|------------------------------|---|
| Output | Nominal Voltage | 6V |
| | Nominal Capacity (20HR) | 1.3Ah |
| Terminal Type | Standard Terminal | F1 |
| Container Material | Standard Option | ABS |
| | Flame Retardant Option (FR) | ABS (UL94:VO) |
| Rated Capacity | (20HR 1.75V/cell, 25°C) | 1.30 Ah/0.065A |
| | (10HR 1.75V/cell, 25°C) | 1.13 Ah/0.113A |
| | (5HR 1.75V/cell, 25°C) | 1.04 Ah/0.207A |
| | (3HR 1.75V/cell, 25°C) | 0.918 Ah/0.306A |
| | (1HR 1.60V/cell, 25°C) | 0.789 Ah/0.789A |
| Max Discharge Current | 18A (5s) | |
| Internal Resistance | Approx 65mΩ | |
| 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 0.39A. Voltage 7.2V ~ 7.5V @ 25°C Temp. Coefficient -15mV/°C |
| | Standby Use | Initial Charging Current less than 0.39A. Voltage 6.75V ~ 6.9V @ 25°C Temp. Coefficient -10mV/°C |
| Capacity affected by Temperature | 40°C | 103% |
| | 25°C | 100% |
| | 0°C | 86% |
| Design Floating Life at 20°C | 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.

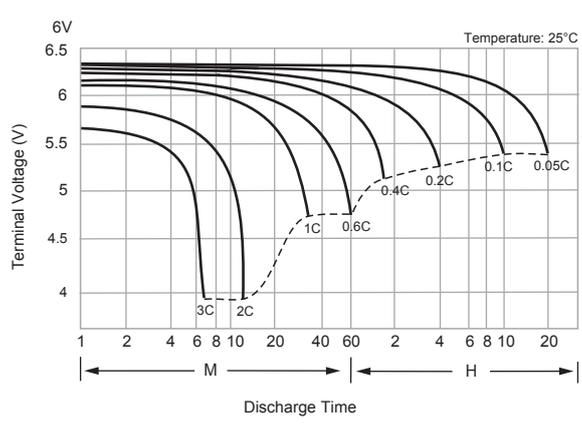
Constant Current Discharge / Constant Power Discharge At 25°C (Amperes & Watts/Cell)

A = Amperes W = Watts

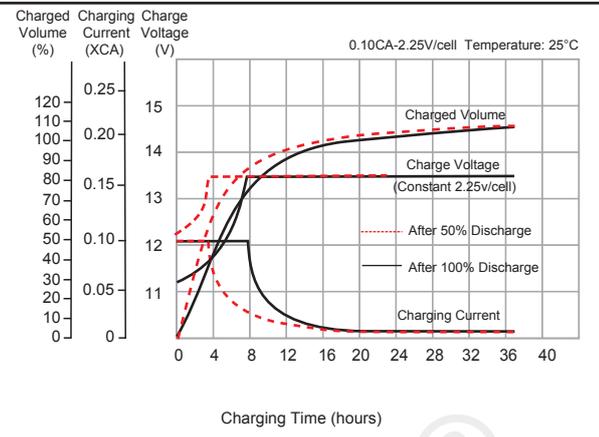
| F.V/TIME | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 60 min | 90 min | 2 hours | 3 hours | 4 hours | 5 hours | 6 hours | 8 hours | 10 hours | 20 hours |
|------------|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|----------|----------|
| A | W | A | W | A | W | A | W | A | W | A | W | A | W | A | W | A |
| 1.85V/cell | 3.73 | 2.28 | 1.78 | 1.48 | 1.10 | 0.813 | 0.714 | 0.523 | 0.411 | 0.296 | 0.236 | 0.201 | 0.172 | 0.136 | 0.111 | 0.059 |
| | 7.06 | 4.34 | 3.40 | 2.86 | 2.13 | 1.58 | 1.39 | 1.02 | 0.804 | 0.583 | 0.465 | 0.397 | 0.341 | 0.269 | 0.220 | 0.117 |
| 1.80V/cell | 4.01 | 2.42 | 1.86 | 1.54 | 1.14 | 0.835 | 0.731 | 0.534 | 0.418 | 0.301 | 0.240 | 0.204 | 0.175 | 0.138 | 0.112 | 0.060 |
| | 7.52 | 4.57 | 3.55 | 2.96 | 2.19 | 1.61 | 1.42 | 1.04 | 0.817 | 0.591 | 0.471 | 0.402 | 0.345 | 0.273 | 0.223 | 0.119 |
| 1.75V/cell | 4.23 | 2.52 | 1.92 | 1.59 | 1.17 | 0.853 | 0.746 | 0.543 | 0.426 | 0.306 | 0.243 | 0.207 | 0.177 | 0.139 | 0.113 | 0.065 |
| | 7.84 | 4.72 | 3.64 | 3.02 | 2.23 | 1.64 | 1.44 | 1.05 | 0.830 | 0.599 | 0.477 | 0.407 | 0.349 | 0.275 | 0.225 | 0.120 |
| 1.70V/cell | 4.43 | 2.62 | 1.99 | 1.63 | 1.20 | 0.872 | 0.760 | 0.553 | 0.432 | 0.311 | 0.246 | 0.209 | 0.179 | 0.141 | 0.115 | 0.065 |
| | 8.13 | 4.87 | 3.74 | 3.09 | 2.28 | 1.67 | 1.46 | 1.07 | 0.840 | 0.607 | 0.483 | 0.412 | 0.353 | 0.278 | 0.227 | 0.121 |
| 1.67V/cell | 4.58 | 2.69 | 2.04 | 1.67 | 1.22 | 0.886 | 0.771 | 0.560 | 0.437 | 0.314 | 0.249 | 0.211 | 0.181 | 0.142 | 0.115 | 0.066 |
| | 8.34 | 4.98 | 3.82 | 3.15 | 2.32 | 1.70 | 1.48 | 1.08 | 0.848 | 0.612 | 0.487 | 0.415 | 0.356 | 0.280 | 0.229 | 0.122 |
| 1.60V/cell | 4.86 | 2.80 | 2.11 | 1.72 | 1.25 | 0.908 | 0.789 | 0.572 | 0.446 | 0.319 | 0.253 | 0.215 | 0.183 | 0.144 | 0.117 | 0.067 |
| | 8.68 | 5.13 | 3.92 | 3.23 | 2.37 | 1.73 | 1.51 | 1.10 | 0.862 | 0.621 | 0.494 | 0.420 | 0.360 | 0.284 | 0.232 | 0.123 |



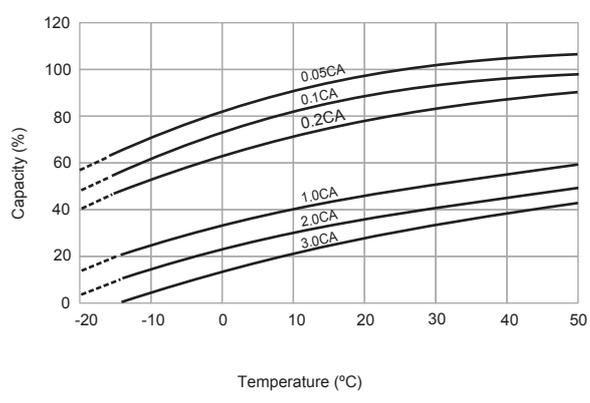
Discharge Characteristics



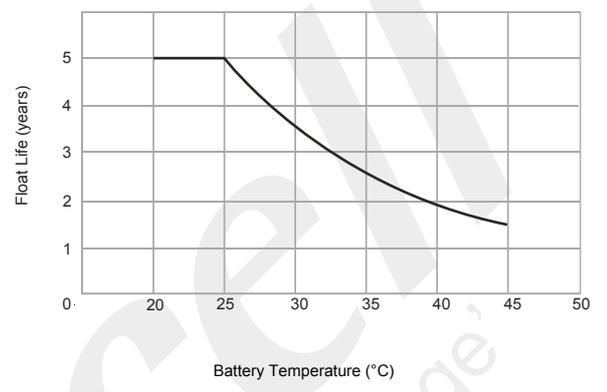
Float Charging Characteristics



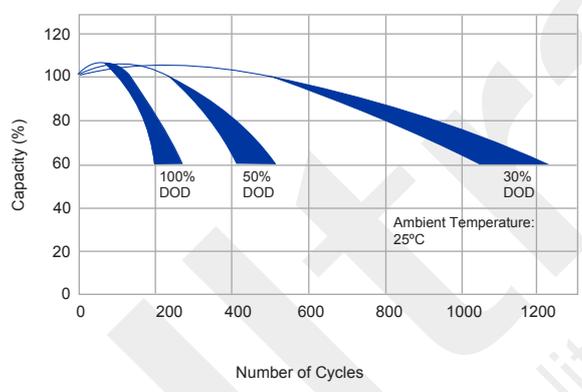
Temperature Effects in Relation to Battery Capacity



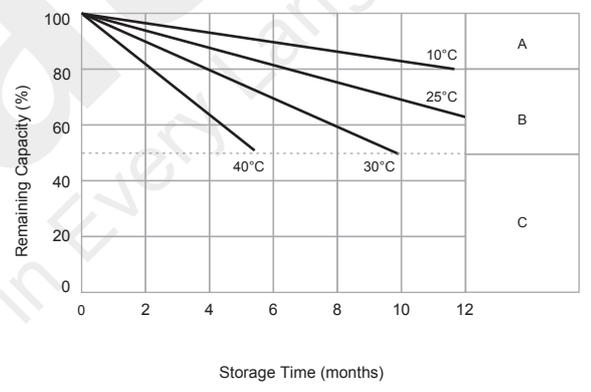
Effects of Temperature on Long Term Float Life



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 2.45V/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.