

UL10-4

Awaiting Image

Physical Specification

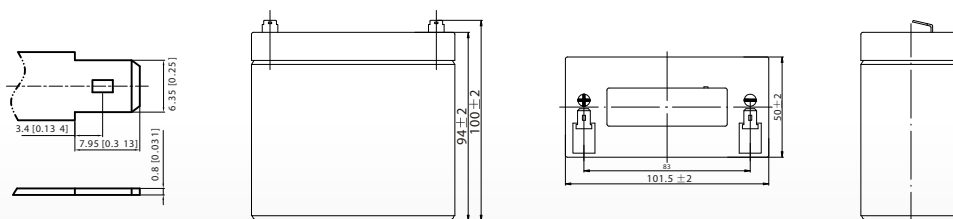
Part Number:	UL10-4
Length:	101.5 ± 2 mm (4.0 inches)
Width:	50 ± 2 mm (1.97 inches)
Container Height:	94 ± 2 mm (3.70 inches)
Total Height (with terminal):	100 ± 2 mm (3.94 inches)
Approx Weight:	Approx 1.14kg (2.51lbs)

Specifications

	Normal Voltage	4V
	Normal Capacity (20HR)	10.0AH
Terminal Type	Standard Terminal	F2
	Optional Terminal	-
Container Material	Standard Option	ABS
	Flame Retardant Option (FR)	UL94:VO
Rated Capacity	10.0 AH/0.50A	(20hr, 1.80V/cell, 25°C / 77°F)
	9.30 AH/0.93A	(10hr, 1.80V/cell, 25°C / 77°F)
	8.50 AH/1.70A	(5hr, 1.75V/cell, 25°C / 77°F)
	7.65 AH/2.55A	(3hr, 1.75V/cell, 25°C / 77°F)
	6.28 AH/6.28A	(1hr, 1.60V/cell, 25°C / 77°F)
Max Discharge Current	150A (5s)	
Internal Resistance	Approx 9mΩ	
Discharge Characteristics	Operating Temp. Range	Discharge: -15 ~ 50°C (5 ~ 122°F)
		Charge: 0 ~ 40°C (5 ~ 104°F)
		Storage: -15 ~ 40°C (5 ~ 104°F)
	Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)
	Cycle Use	Initial Charging Current less than 3.0A. Voltage 4.8V ~ 5.0V at 25°C (77°F) Temp. Coefficient -10mV/°C
	Standby Use	No limit on Initial Charging Current Voltage 4.5V ~ 4.6V at 25°C (77°F) Temp. Coefficient -6mV/°C
Capacity affected by Temperature	40°C (104°F) 103%	
	25°C (77°F) 100%	
	0°C (32°F) 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



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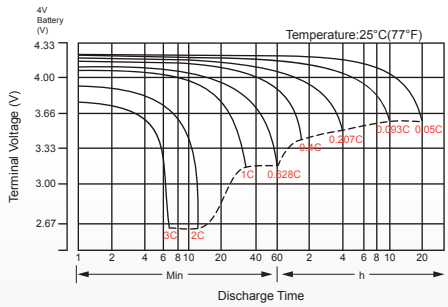
Constant Current Discharge (Amperes) at 25°C (77°F)

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	19.0	14.6	12.1	10.5	8.10	5.97	5.03	2.97	2.33	1.89	1.54	1.34	1.080	0.902	0.495
1.80V/cell	25.6	18.7	14.6	12.4	9.56	6.94	5.63	3.25	2.50	2.02	1.66	1.44	1.145	0.930	0.500
1.75V/cell	28.8	20.5	16.0	13.3	9.92	7.20	5.89	3.37	2.55	2.07	1.70	1.48	1.165	0.955	0.505
1.70V/cell	31.7	22.4	17.1	14.0	10.3	7.49	6.08	3.45	2.62	2.12	1.74	1.51	1.181	0.974	0.514
1.65V/cell	35.0	24.2	18.1	14.9	10.9	7.68	6.22	3.50	2.73	2.19	1.79	1.54	1.200	0.994	0.521
1.60V/cell	38.6	26.2	19.4	15.8	11.5	8.00	6.28	3.65	2.82	2.26	1.85	1.57	1.212	1.005	0.524

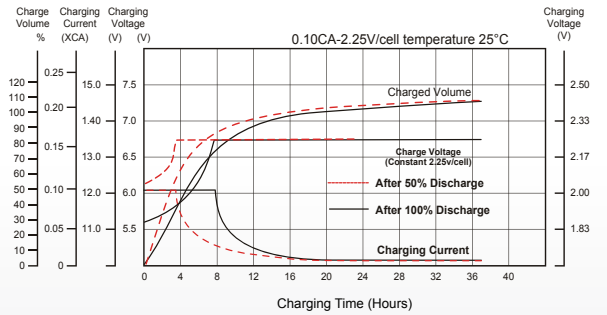
Constant Power Discharge (Watts) at 25°C (77°F)

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	34.8	27.0	22.6	19.7	15.4	11.5	9.7	5.78	4.54	3.70	3.03	2.63	2.13	1.79	0.981
1.80V/cell	46.2	34.1	26.9	23.0	17.9	13.2	10.8	6.26	4.85	3.93	3.23	2.81	2.25	1.84	0.989
1.75V/cell	51.0	36.9	29.1	24.5	18.5	13.6	11.3	6.47	4.92	4.00	3.31	2.88	2.29	1.88	0.998
1.70V/cell	54.6	39.3	30.6	25.6	19.1	14.1	11.6	6.62	5.05	4.10	3.38	2.94	2.32	1.92	1.015
1.65V/cell	59.4	42.0	32.3	26.9	20.0	14.3	11.8	6.67	5.24	4.23	3.47	2.99	2.35	1.96	1.027
1.60V/cell	64.0	44.6	34.0	28.4	21.0	14.8	11.8	6.93	5.38	4.35	3.57	3.04	2.37	1.98	1.032

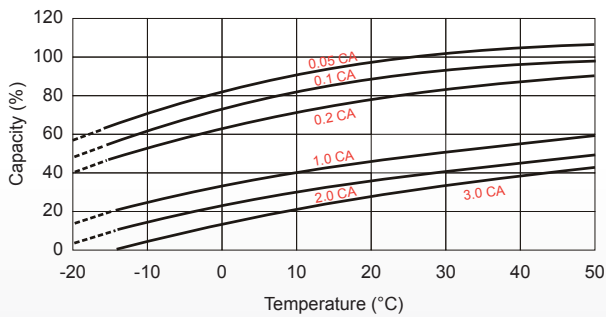
Discharge Characteristics



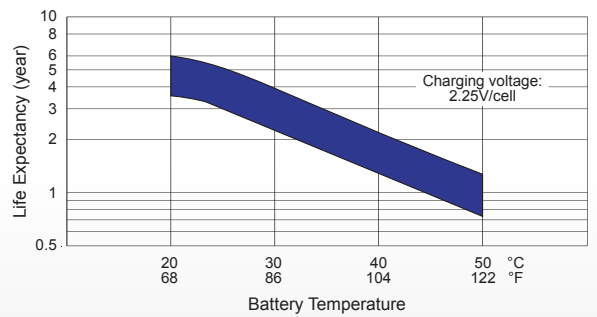
Float Charging Characteristics



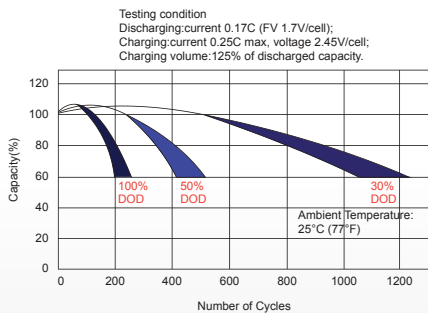
Temperature Effects in Relation to Battery Capacity



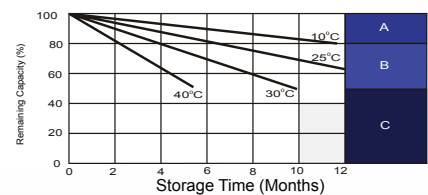
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics



- 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.

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