

**UL5-12**



**Physical Specification**

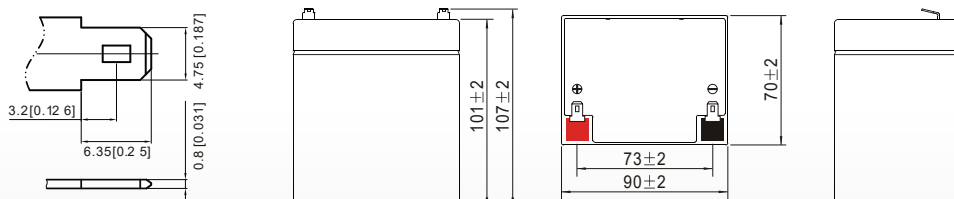
Part Number:	<b>UL5-12</b>
Length:	<b>90 ± 2 mm (3.54 inches)</b>
Width:	<b>70 ± 2 mm (2.76 inches)</b>
Container Height:	<b>101 ± 2 mm (3.98 inches)</b>
Total Height (with terminal):	<b>107 ± 2 mm (4.21 inches)</b>
Approx Weight:	<b>Approx 1.60kg (3.57lbs)</b>

**Specifications**

	Normal Voltage	12V
	Normal Capacity (20HR)	5AH
<b>Terminal Type</b>	Standard Terminal	F1/F2
	Optional Terminal	-
<b>Container Material</b>	Standard Option	ABS
	Flame Retardant Option (FR)	UL94:VO
<b>Rated Capacity</b>	5.00 AH/0.27A	(20hr, 1.80V/cell, 25°C / 77°F)
	4.65 AH/0.502A	(10hr, 1.80V/cell, 25°C / 77°F)
	4.60 AH/0.92A	(5hr, 1.75V/cell, 25°C / 77°F)
	4.14 AH/1.38A	(3hr, 1.75V/cell, 25°C / 77°F)
	3.39 AH/3.39A	(1hr, 1.60V/cell, 25°C / 77°F)
<b>Max Discharge Current</b>	67.5A (5s)	
<b>Internal Resistance</b>	Approx 40mΩ	
<b>Discharge Characteristics</b>	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 1.62A. Voltage 14.4V ~ 15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C
	Standby Use	No limit on Initial Charging Current Voltage 13.5V ~ 13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C
Capacity affected by Temperature	40°C (104°F) 103%	
	25°C (77°F) 100%	
	0°C (32°F) 86%	
<b>Design Floating Life at 20°C</b>	5 Years	
<b>Self Discharge</b>	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**

**F1 Terminal**



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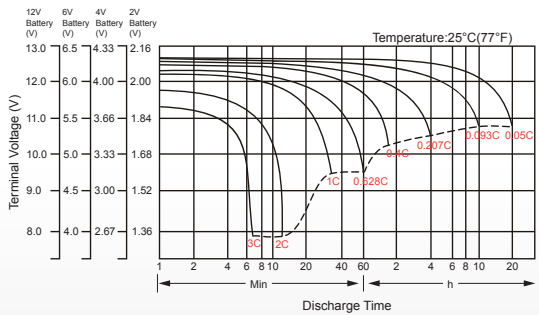
### Constant Current Discharge (Amperes) at 25°C (77°F)

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	10.3	7.90	6.54	5.66	4.37	3.22	2.72	1.61	1.26	1.02	0.83	0.72	0.583	0.487	0.267
1.80V/cell	13.8	10.1	7.90	6.69	5.16	3.75	3.04	1.75	1.35	1.09	0.89	0.78	0.618	0.502	0.270
1.75V/cell	15.6	11.1	8.63	7.19	5.36	3.89	3.18	1.82	1.38	1.12	0.92	0.80	0.629	0.516	0.273
1.70V/cell	17.1	12.1	9.22	7.56	5.58	4.04	3.28	1.86	1.42	1.14	0.94	0.81	0.638	0.526	0.278
1.65V/cell	18.9	13.0	9.80	8.03	5.88	4.15	3.36	1.89	1.48	1.18	0.97	0.83	0.648	0.537	0.281
1.60V/cell	20.8	14.2	10.5	8.55	6.21	4.32	3.39	1.97	1.52	1.22	1.00	0.85	0.654	0.543	0.283

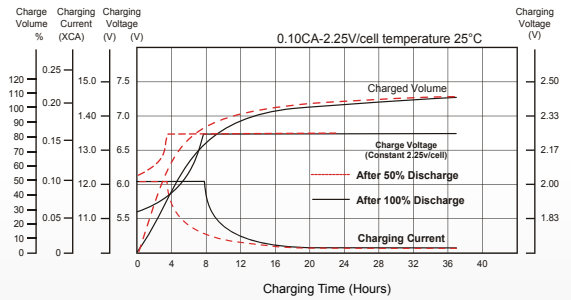
### Constant Power Discharge (Watts) at 25°C (77°F)

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	18.8	14.6	12.2	10.7	8.34	6.19	5.24	3.12	2.45	2.00	1.63	1.42	1.151	0.964	0.530
1.80V/cell	25.0	18.4	14.5	12.4	9.68	7.15	5.84	3.38	2.62	2.12	1.74	1.52	1.217	0.992	0.534
1.75V/cell	27.6	19.9	15.7	13.2	9.97	7.35	6.08	3.49	2.66	2.16	1.79	1.55	1.235	1.018	0.539
1.70V/cell	29.5	21.2	16.5	13.8	10.3	7.61	6.25	3.57	2.73	2.21	1.83	1.59	1.252	1.037	0.548
1.65V/cell	32.1	22.7	17.4	14.5	10.8	7.73	6.35	3.60	2.83	2.28	1.87	1.61	1.268	1.057	0.555
1.60V/cell	34.6	24.1	18.3	15.3	11.3	8.01	6.38	3.74	2.90	2.35	1.93	1.64	1.278	1.067	0.557

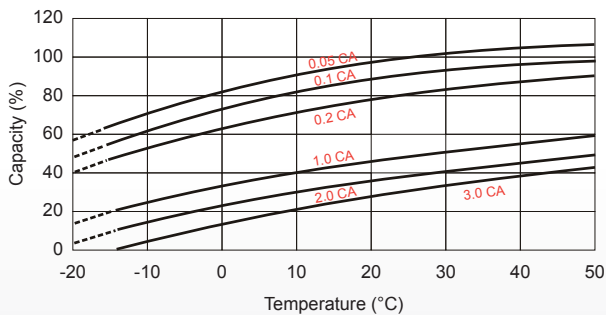
### Discharge Characteristics



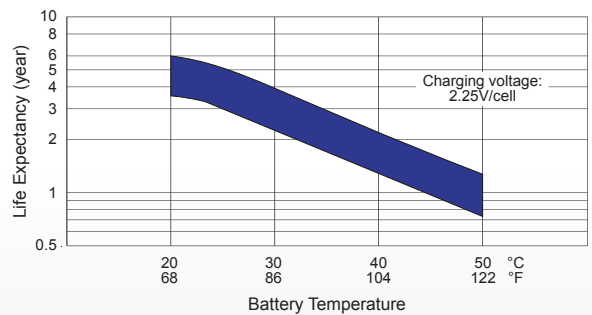
### Float Charging Characteristics



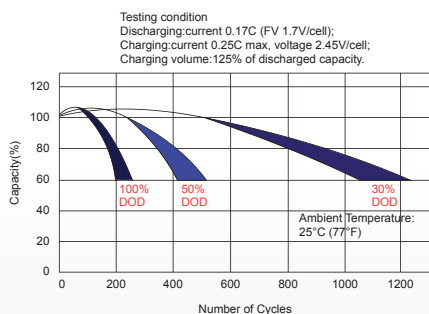
### Temperature Effects in Relation to Battery Capacity



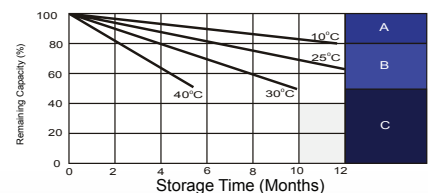
### Effect of Temperature on Long Term Float Life



### 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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