

### UL2.9-12



### Physical Specification

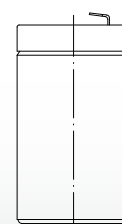
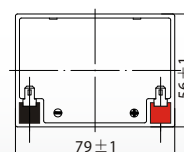
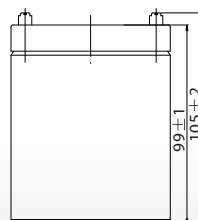
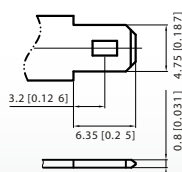
Part Number:	<b>UL2.9-12</b>
Length:	<b>79 ± 2 mm (3.11 inches)</b>
Width:	<b>56 ± 2 mm (2.20 inches)</b>
Container Height:	<b>99 ± 2 mm (3.90 inches)</b>
Total Height (with terminal):	<b>105 ± 2 mm (4.13 inches)</b>
Approx Weight:	<b>Approx 1.1 kg (2.43lbs)</b>

### Specifications

	Nominal Voltage	12V
	Nominal Capacity (20HR)	2.9 AH
Terminal Type	Standard Terminal	F1
	Optional Terminal	-
Container Material	Standard Option	ABS
	Flame Retardant Option (FR)	ABS (UL94:VO)
Rated Capacity	2.90 AH/0.145A	(20hr, 1.80V/cell, 25°C / 77°F)
	2.70 AH/0.27A	(10hr, 1.80V/cell, 25°C / 77°F)
	2.45 AH/0.49A	(5hr, 1.75V/cell, 25°C / 77°F)
	2.22 AH/0.74A	(3hr, 1.75V/cell, 25°C / 77°F)
	1.82 AH/1.82A	(1hr, 1.60V/cell, 25°C / 77°F)
Max Discharge Current	43.5A (5s)	
Internal Resistance	Approx 55mΩ	
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 0.87 A. 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%
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

#### F1 Terminal



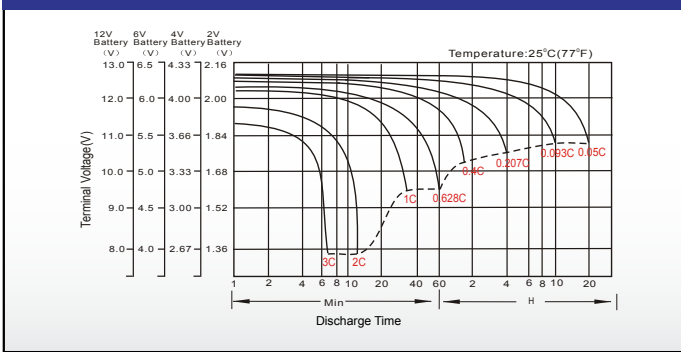
## Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	5.52	4.24	3.51	3.04	2.35	1.73	1.46	0.86	0.67	0.55	0.447	0.388	0.313	0.262	0.144
1.80V/cell	7.41	5.42	4.24	3.59	2.77	2.01	1.63	0.94	0.73	0.59	0.480	0.416	0.332	0.270	0.145
1.75V/cell	8.36	5.95	4.64	3.86	2.88	2.09	1.71	0.98	0.74	0.60	0.493	0.428	0.338	0.277	0.146
1.70V/cell	9.20	6.49	4.95	4.06	2.99	2.17	1.76	1.00	0.76	0.61	0.505	0.437	0.343	0.282	0.149
1.65V/cell	10.15	7.00	5.26	4.31	3.16	2.23	1.80	1.02	0.79	0.64	0.519	0.446	0.348	0.288	0.151
1.60V/cell	11.19	7.60	5.63	4.59	3.34	2.32	1.82	1.06	0.82	0.66	0.537	0.456	0.351	0.291	0.152

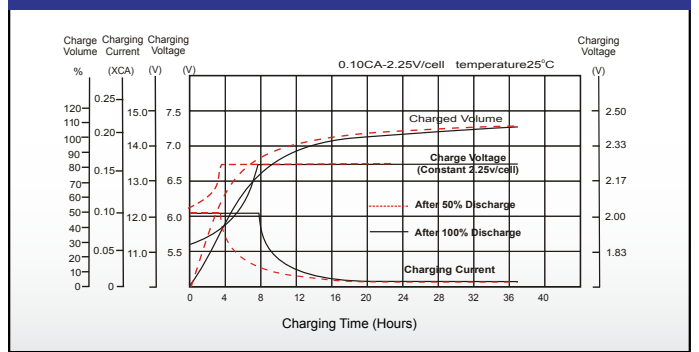
## Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	10.1	7.83	6.56	5.73	4.48	3.33	2.81	1.67	1.32	1.07	0.877	0.763	0.618	0.518	0.284
1.80V/cell	13.4	9.89	7.81	6.67	5.20	3.84	3.13	1.82	1.41	1.14	0.937	0.815	0.654	0.533	0.287
1.75V/cell	14.8	10.7	8.43	7.11	5.36	3.94	3.26	1.88	1.43	1.16	0.959	0.835	0.664	0.547	0.289
1.70V/cell	15.8	11.4	8.87	7.41	5.54	4.09	3.36	1.92	1.46	1.19	0.981	0.851	0.672	0.557	0.294
1.65V/cell	17.2	12.2	9.36	7.81	5.80	4.15	3.41	1.94	1.52	1.23	1.005	0.867	0.681	0.568	0.298
1.60V/cell	18.6	12.9	9.85	8.23	6.08	4.30	3.42	2.01	1.56	1.26	1.034	0.883	0.686	0.573	0.299

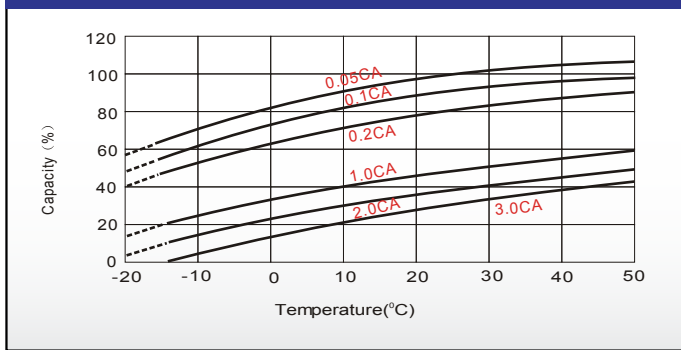
### Discharge Characteristics



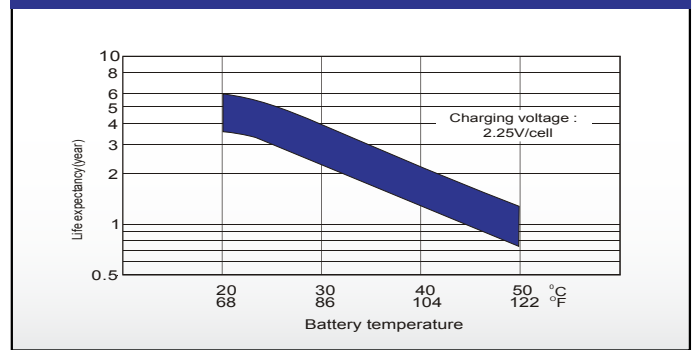
### Float Charging Characteristics



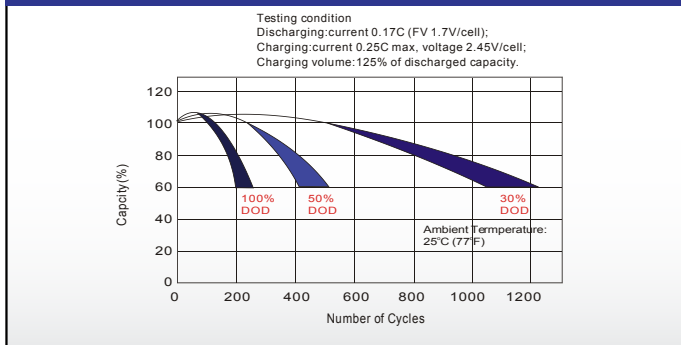
### Temperature Effects in Relation to Battery Capacity



### Effect of Temperature on Long Term Float Life



### Cycle Life in Relation to Depth of Discharge



### Self Discharge Characteristics

