

# UCG 45-12

12V 45AH

Deep Cycle Gel

# Ultracell®

'Quality in Every Language'

## UCG45-12



## Physical Specification

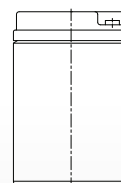
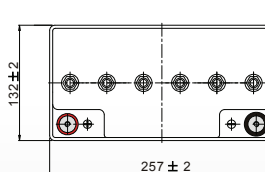
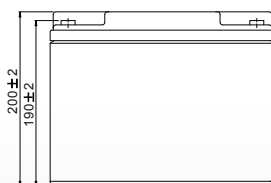
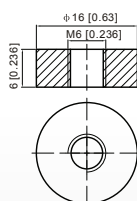
|                               |                                  |
|-------------------------------|----------------------------------|
| Part Number:                  | <b>UCG45-12</b>                  |
| Length:                       | <b>197 ± 2 mm (10.12 inches)</b> |
| Width:                        | <b>165 ± 2 mm (5.20 inches)</b>  |
| Container Height:             | <b>170 ± 2 mm (7.87 inches)</b>  |
| Total Height (with terminal): | <b>170 ± 2 mm (7.87 inches)</b>  |
| Approx Weight:                | <b>Approx 14.2kg (31.3lbs)</b>   |

## Specifications

|                                  |  |  |
|----------------------------------|--|--|
|                                  | Normal Voltage   | 12V  |
|                                  | Normal Capacity (20HR)   | 45.0AH   |
| Terminal Type                    | Standard Terminal  | F6   |
|                                  | Optional Terminal  | -  |
| Container Material               | Standard Option  | ABS  |
|                                  | Flame Retardant Option (FR)  | UL94:VO  |
| Rated Capacity                   | 45.0 AH/2.25A  | (20hr, 1.80V/cell, 25°C / 77°F)  |
|                                  | 40.0 AH/4.0A   | (10hr, 1.75V/cell, 25°C / 77°F)  |
|                                  | 36.0 AH/7.2A   | (5hr, 1.75V/cell, 25°C / 77°F)   |
|                                  | 31.2 AH/10.4A  | (3hr, 1.75V/cell, 25°C / 77°F)   |
|                                  | 24.8 AH/24.8A  | (1hr, 1.67V/cell, 25°C / 77°F)   |
| Max Discharge Current            | 450A (5s)  |  |
| Internal Resistance              | Approx 9.6mΩ   |  |
| Discharge Characteristics        | Operating Temp. Range  | Discharge: -20 ~ 55°C (-4 ~ 131°F)   |
|                                  |  | Charge: 0 ~ 40°C (32 ~ 104°F)  |
|                                  |  | Storage: -20 ~ 50°C (-4 ~ 122°F)   |
|                                  | Nominal Operating Temp. Range  | 25 ± 3°C (77 ± 5°F)  |
|                                  | Cycle Use  | Initial Charging Current less than 11.25A Voltage<br>14.4V ~ 15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C |
|                                  | Standby Use  | No limit on Initial Charging Current Voltage<br>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     | 12 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

### F6 Terminal



ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE

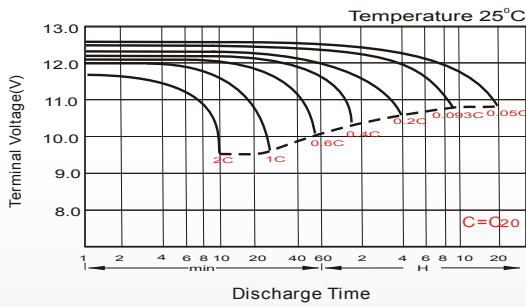
### Constant Current Discharge (Amperes) at 25°C (77°F)

| F.V/Time   | 20 min | 30 min | 45 min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 9h   | 10h  | 20h  |
|------------|--------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 38.1   | 29.9   | 22.8   | 19.1 | 12.1 | 9.23 | 7.64 | 6.60 | 5.69 | 5.04 | 4.55 | 4.16 | 3.75 | 2.16 |
| 1.80V/cell | 43.6   | 33.4   | 25.1   | 21.1 | 13.1 | 9.89 | 8.10 | 6.93 | 5.98 | 5.28 | 4.76 | 4.37 | 3.92 | 2.25 |
| 1.75V/cell | 49.0   | 36.7   | 27.2   | 22.5 | 13.9 | 10.4 | 8.48 | 7.20 | 6.19 | 5.46 | 4.92 | 4.50 | 4.00 | 2.30 |
| 1.70V/cell | 52.8   | 39.3   | 28.9   | 23.9 | 14.7 | 10.9 | 8.76 | 7.43 | 6.41 | 5.64 | 5.06 | 4.62 | 4.09 | 2.32 |
| 1.67V/cell | 54.9   | 40.9   | 29.9   | 24.8 | 15.1 | 11.2 | 8.98 | 7.58 | 6.51 | 5.73 | 5.14 | 4.68 | 4.14 | 2.35 |
| 1.60V/cell | 59.5   | 43.7   | 32.1   | 26.3 | 15.7 | 11.7 | 9.32 | 7.81 | 6.67 | 5.85 | 5.23 | 4.78 | 4.22 | 2.38 |

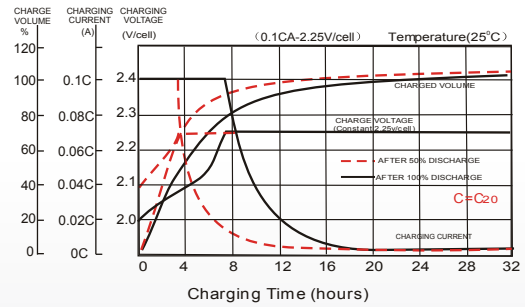
### Constant Power Discharge (Watts) at 25°C (77°F)

| F.V/Time   | 20 min | 30 min | 45 min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 9h   | 10h  | 20h  |
|------------|--------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 72.9   | 57.6   | 44.2   | 37.1 | 23.7 | 18.1 | 15.0 | 13.0 | 11.3 | 10.0 | 9.04 | 8.28 | 7.49 | 4.31 |
| 1.80V/cell | 82.4   | 63.7   | 48.4   | 40.8 | 25.5 | 19.3 | 15.9 | 13.6 | 11.8 | 10.4 | 9.45 | 8.68 | 7.80 | 4.48 |
| 1.75V/cell | 91.5   | 69.5   | 51.9   | 43.4 | 26.9 | 20.3 | 16.6 | 14.1 | 12.2 | 10.8 | 9.73 | 8.93 | 7.95 | 4.57 |
| 1.70V/cell | 97.5   | 73.7   | 54.7   | 45.7 | 28.4 | 21.1 | 17.1 | 14.5 | 12.6 | 11.1 | 10.0 | 9.16 | 8.13 | 4.62 |
| 1.67V/cell | 100.4  | 75.8   | 56.3   | 47.1 | 29.0 | 21.7 | 17.4 | 14.8 | 12.7 | 11.3 | 10.1 | 9.26 | 8.21 | 4.66 |
| 1.60V/cell | 107.6  | 80.4   | 60.0   | 49.8 | 30.0 | 22.5 | 18.0 | 15.2 | 13.0 | 11.5 | 10.3 | 9.44 | 8.36 | 4.72 |

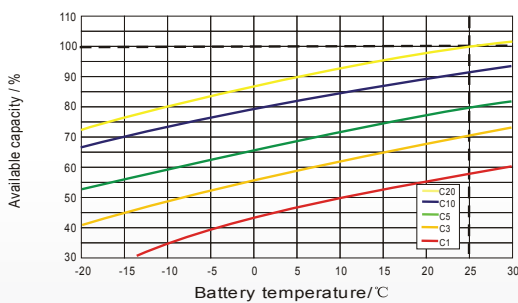
### Discharge Characteristics



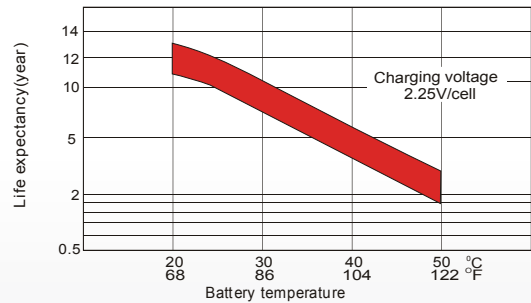
### Float Charging Characteristics



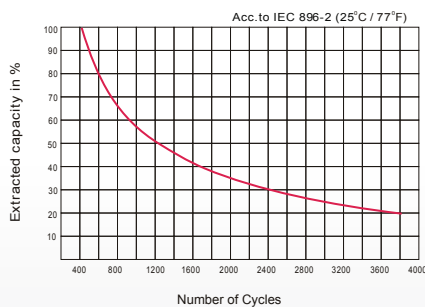
### Temperature Effects in Relation to Battery Capacity



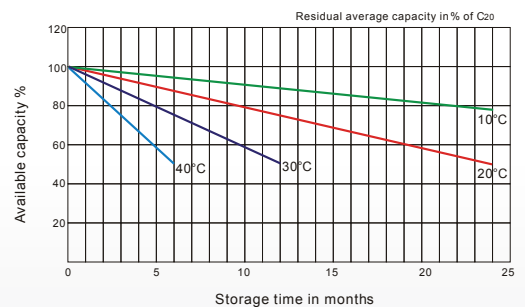
### Effect of Temperature on Long Term Float Life



### Cycle Life in Relation to Depth of Discharge



### General Relation of Capacity VS. Storage Time



ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE