

## PRODUCT SUMMARY GUIDE

### Technical Datasheet

#### The Ultralife Advantage

Better technology. Our battery & charging technologies and power systems enable us to design leading-edge solutions for the world's most demanding applications.

#### *Lithium-Manganese Dioxide Batteries*

- 9-Volt
- Thin Cell<sup>®</sup>
- HiRate<sup>®</sup> Cylindrical
- Military

#### *Rechargeable Batteries*

- Lithium Polymer
- Lithium ION

#### *Magnesium-Silver Chloride Batteries*

- Seawater Activated



Our goal is to continuously improve the performance of our batteries. The specifications for battery performance are subject to change without notice. See individual product Technical Data Sheets for the latest specifications and complete performance details. The information contained herein is for reference only and does not constitute a warranty of performance.

For more information about Ultralife and our products, visit us at [www.ultralifebatteries.com](http://www.ultralifebatteries.com)

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# Ultralife Lithium-Manganese Dioxide Battery Systems

## 9-Volt



A consumer-replaceable, high energy density battery that lasts up to 5 times longer than ordinary alkaline 9-volt batteries and 10 times longer than carbon-zinc batteries in many applications. Ultralife's lithium chemistry provides a flat discharge profile over a wide operating temperature range, and 10-year shelf life for the aluminum-jacketed U9VL-J battery. The Ultralife 9-volt is UL-recognized, has a patented safety mechanism and is environmentally friendly.

- Temperature Range: -20°C to 60°C – operating (-40°C to 60°C – storage)
- Terminals: Ni-plated Miniature Snap
- Transportation: See note 2

| Ultralife Part No. | NSN              | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity (Ah) (see note 1) | Maximum Discharge (mA-continuous) | Weight (grams) | Pulse Capability (mA) (see note 3) | Exterior/Housing (see note 4) |
|--------------------|------------------|-----------------------------------------------|---------------------|------------------------------------|-----------------------------------|----------------|------------------------------------|-------------------------------|
| U9VL-J             |                  | 17.5 x 26.5 x 49.2                            | 9.0                 | 1.2                                | 120                               | 36.4           | Up to 400                          | Aluminum, Mylar Label         |
| U9VL               | 6135-01-369-9792 | 16.9 x 26.0 x 48.8                            | 9.0                 | 1.2                                | 120                               | 33.8           | Up to 400                          | Plastic, Foil Label           |
| U9VL-BP            |                  | 17.5 x 26.5 x 49.2                            | 9.0                 | 1.2                                | 120                               | 36.4           | Up to 400                          | Aluminum, Mylar Label         |
| U9VL-X             |                  | 17.5 x 26.5 x 49.2                            | 9.0                 | 1.2                                | 120                               | 36.4           | Up to 400                          | Aluminum, Mylar Label         |

Note (1): Nominal capacity @ 9 mA to 5.4 V @ 23°C

Note (2): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (3): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

Note (4): U9VL sold as U9VL-FP (Foil Pack) only. U9VL-J available in blister cards (U9VL-BP and U9VL-X). Other packaging options available. Contact your local rep.

## Thin Cells



Ultralife Thin Cell<sup>®</sup> lithium batteries are wafer-thin, with a unique combination of high-energy density, long life, wide operating temperature range and light weight.

- Temperature Range: 0°C to 71°C – operating (-40 °C to 71°C – storage)
- Terminals: Nickel Tabs
- Transportation: See note 2
- Housing: Laminated Foil

| Ultralife Part No. | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity (see note 1) | Maximum Discharge (mA-continuous) | Pulse Capability (mA) (see note 3) | Weight (grams) |
|--------------------|-----------------------------------------------|---------------------|-------------------------------|-----------------------------------|------------------------------------|----------------|
| U10004             | 5.00 x 44.45 x 54.61                          | 3.0                 | 1.5 Ah                        | 250                               | Up to 500 mA                       | 15.0           |
| U10007             | 2.16 x 32.16 x 40.36                          | 3.0                 | 400 mAh                       | 25                                | Up to 130 mA                       | 3.5            |

Note (1): U10004 nominal capacity @ 10 mA to 1.5 V @ 23°C. U10007 nominal capacity @ 6 mA to 1.5 V @ 23°C

Note (2): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (3): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

## HiRate® Cylindrical



Ultralife HiRate® lithium batteries provide ultra-high rates of discharge, in extreme temperatures, without voltage delay at start-up even after long periods of storage. Significantly safer than comparable high-rate systems, Ultralife HiRate batteries have a 10-year shelf life and are environmentally friendly.

- Temperature Range: -40°C to 72°C - operating • Terminals: See note 2 • PTC (resettable fuse): See note 3 • Transportation: See note 4
- 40°C to 95°C – storage (U2550HCES-F95 and U 2550HCE-CF-UFA: -55°C to 95°C)

| Ultralife Product | NSN                               | Ultralife Part No. | Dimensions (mm) | Size  | Average Voltage (V) | Nominal Capacity (Ah)<br>(see note 1) | Maximum Discharge<br>(A-continuous) | Pulse Capability<br>(A) (see note 5) | Weight<br>(grams) | Exterior/Housing                                                              |
|-------------------|-----------------------------------|--------------------|-----------------|-------|---------------------|---------------------------------------|-------------------------------------|--------------------------------------|-------------------|-------------------------------------------------------------------------------|
| D Size            | 6135-01-554-3803<br>(U10014 only) | U10013, U10014     | 34.0 x 60.5     | D     | 3.0                 | 11.1                                  | 3.3                                 | Up to 7.0                            | 115               | Hermetic Ni-plated steel can w/Mylar sleeve                                   |
|                   |                                   | U10015, U10016     | 34.0 x 60.7     | D     | 3.0                 | 11.1                                  | 3.3                                 | Up to 7.0                            | 115               | Hermetic Ni-plated steel can w/Mylar sleeve                                   |
| 5/4 C Size        |                                   | U10021, U10023     | 25.8 x 60.5     | 5/4 C | 3.0                 | 6.1                                   | 2.5                                 | Up to 5.3                            | 71                | Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve               |
|                   |                                   | U10022, U10024     | 25.8 x 62.2     | 5/4 C | 3.0                 | 6.1                                   | 2.5                                 | Up to 5.3                            | 71                | Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve               |
| C Size            |                                   | U10017, U10019     | 25.8 x 50.0     | C     | 3.0                 | 4.8                                   | 2.0                                 | Up to 4.2                            | 61                | Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve               |
|                   |                                   | U10018, U10020     | 25.8 x 52.2     | C     | 3.0                 | 4.8                                   | 2.0                                 | Up to 4.2                            | 61                | Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve               |
| U10025 MIDS       | 6135-01-545-6582                  | U10025             | 26.0 x 52.7     | C     | 3.0                 | 4.8                                   | 2.0                                 | Up to 2.6                            | 61                | Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve.              |
| U2550HCE-CF-UFA   |                                   | U2550H             | 25.9 x 50.3     | C     | 3.0                 | 4.3                                   | 1.2                                 | Up to 2.6                            | 60                | Stainless steel w/ laser welded hermetic seal & Mylar sleeve, polyester label |
| U1965             |                                   | U10009, U10010     | 19.2 x 68.5     | -     | 3.0                 | 3.2                                   | 1.5                                 | Up to 2.0                            | 42                | Hermetic Ni-plated steel can w/Mylar sleeve                                   |
|                   |                                   | U10011, U10012     | 19.2 x 68.5     | -     | 3.0                 | 3.2                                   | 1.5                                 | Up to 2.0                            | 42                | Hermetic Ni-plated steel can w/Mylar sleeve                                   |

Note (1): D Cells nominal capacity @ 250 mA to 2.0 V @ 23°C  
 5/4 C cells nominal capacity @ 150 mA to 2.0 V @ 23°C  
 C cells nominal capacity @ 150 mA to 2.0 V @ 23°C  
 U2550HCE-CF-UFA nominal capacity @ 100 mA to 2.0 V @ 23°C  
 U1965 nominal capacity @ 1000 mA to 2.0 V @ 23°C

Note (2): U10010 & U10011, U10013 & U10014, U10017 & U10018, U10021 & U10022: Flat Ni-plated +/- End Caps  
 U10009 & U10012, U10015 & U10016, U10019 & U10020, U10023 & U10024: Flat Ni-plated +/- End Caps with Nickel Tabs  
 U2550HCE-CF-UFA: Stainless Steel

Note (3): U10009 & U10011, U10014 & U10016, U10017 & U10019, U10022 & U10024 have PTC (re-settable fuse)

Note (4): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (5): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

# Ultralife Batteries for Military Applications

## Military/Commercial: Li-MnO<sub>2</sub> Primary



Ultralife advanced-technology Li/MnO<sub>2</sub> military batteries have higher volumetric energy density than lithium sulfur dioxide batteries - in some cases two times more energy. And Ultralife Li/MnO<sub>2</sub> batteries are non-pressurized and non-toxic, making them safer and more environmentally friendly.

- Temperature Range: -40°C to 72°C – operating / -40°C to 95°C - storage
- Terminals: See note 2
- Transportation: See note 3

| Ultralife Product No. | NSN                                          | Ultralife Part No. | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity<br>(see note 1) | Maximum Discharge<br>(continuous) | Pulse Capability<br>(see note 4)         | Weight<br>(grams) | Exterior/Housing                                                   |
|-----------------------|----------------------------------------------|--------------------|-----------------------------------------------|---------------------|----------------------------------|-----------------------------------|------------------------------------------|-------------------|--------------------------------------------------------------------|
| BA-5390A/U            | 6135-01-517-6060                             | UB0021             | 62.2 x 111.8 x 127.0                          | 27.0 or 13.5        | 11.1 Ah (30 V)<br>22.2 Ah (15 V) | 2.0 A (30 V)<br>4.0 A (15 V)      | Up to 2.5 A (30 V)<br>Up to 5.0 A (15 V) | 1300              | Hard Plastic Case with State of Charge Indicator                   |
| BA-5390/U             | 6135-01-501-0833                             | UB0001             | 62.2 x 111.8 x 127.0                          | 27.0 or 13.5        | 11.1 Ah (30 V)<br>22.2 Ah (15 V) | 2.0 A (30 V)<br>4.0 A (15 V)      | Up to 2.5 A (30 V)<br>Up to 5.0 A (15 V) | 1300              | Hard Plastic Case                                                  |
| BA-5347/U             | 6135-01-455-7946                             | UB0016             | 38.1 x 64.8 x 95.3                            | 6.0                 | 11.1 Ah                          | 3.0 A                             | Up to 3.5 A                              | 380               | Hard Plastic Case                                                  |
| Type 5380             |                                              | UB2777,<br>UB0009  | 35.51 x 128.50                                | 6.0                 | 11.1 Ah                          | 2.5 A                             | Up to 2.5 A                              | 390               | Mylar Sleeve                                                       |
| Sophie                | US: 6135-01-539-0013<br>UK: 6135-99-834-4219 | U2560E-5-27        | 50.9 x 63.6 x 145.5                           | 13.3                | 5.7 Ah                           | 1.5 A                             | N/A                                      | 470               | Noryl 190 Case                                                     |
| U10025 MIDS           | 6135-01-545-6582                             | U10025             | 26 dia x 52.7                                 | 3.0                 | 4.8 Ah                           | 2.0 A                             | Up to 2.6 A                              | 61                | Hermetic Ni-plated steel can. End caps, tabs and insulating sleeve |
| U2550HCE-CF-UFA       |                                              | same               | 25.9 x 50.3                                   | 3.0                 | 4.3 Ah                           | 1.2 A                             | Up to 2.6 A                              | 60                | See HiRate listing                                                 |
| BA-5367/U             | 6135-01-507-1135                             | UB0006             | 25.4 dia x 20.8                               | 3.0                 | 1.3 Ah                           | 380 mA                            | Up to 800 mA                             | 22                | Hermetically sealed Ni-plated steel can, plastic sleeve            |
| BA-5368/U             | 6135-01-455-7947                             | UB2776             | 27.7 dia. x 77.5                              | 12.0                | 1.0 Ah                           | 320 mA                            | Up to 600 mA                             | 76                | Hermetically sealed Ni-plated steel can, plastic sleeve            |
| BA-5372/U             | 6135-01-214-6441                             | UB1733             | 16.8 dia. x 33.5                              | 6.0                 | 500 mAh                          | 160 mA                            | Up to 300 mA                             | 20                | Hermetically sealed Ni-plated steel can, Mylar sleeve              |
| ½ AA                  | 6135-01-340-7883                             | UB1426             | 14.7 dia. x 26.0                              | 3.0                 | 500 mAh                          | 160 mA                            | Up to 300 mA                             | 10                | Hermetically sealed Ni-plated steel can, Mylar sleeve              |

Note (1): BA-5390/U and BA-5390A/U lower nominal capacity @ 250 mA to 20 V @ 23°C; higher nominal capacity @ 250 mA to 10 V @ 23°C

BA-5347/U rated @ 250 mA to 4V

U2550HCE-CF-UFA nominal capacity @ 100 mA to 2.0 V @ 23°C

BA-5367/U nominal capacity @ 50 mA to 2.0 V @ 23°C, BA-5368/U nominal capacity @ 1.0 Ah to 8.0 V @ 23°C, BA-5372/U nominal capacity @ 4.5 mA to 4.0 V @ 23°C

Type 5380 nominal capacity @ 250 mA to 4.0V @ 23°C; Sophie nominal capacity @ 1,000 mA to 8.5 V @ 23°C

U10025 nominal capacity @ 150 mA to 2.0 V @ 23°C; 1/2 AA nominal capacity @ 41 mA to 2.0 V @ 23°C

Note (2): BA-5367/U, BA-5368/U and BA-5372/U: Ni-plated Contacts

BA-5390/U and BA5490A/U: 5 pin polarized socket; BA-5347/U: Polarized socket / Flat ribbon

U2550HCE-CF-UFA: Stainless Steel

1/2AA: Ni-plated Contacts

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (4): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

## Military/Commercial: Li ION Rechargeable



Ultralife Lithium-Ion Rechargeable batteries combine high-energy chemistry with state-of-the art technology to produce a lightweight battery with a wide operating temp range with no memory effect.

- Temperature Range: -20°C to 60°C – operating and storage
- Memory Effect: None
- Transportation: See note 3
- Terminals: See note 1
- Charging: See note 2
- Cycle Life: Greater than 300 cycles @ C/5 to 80% of initial capacity
- Self Discharge: <5% per month

### Military/Commercial: Lithium ION Rechargeable Batteries

| Ultralife Product No. | Ultralife Part No. | NSN              | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity (Ah) | Maximum Discharge (A-continuous) | Energy (Wh) | Energy Density (Wh/kg) | Weight (grams) | Exterior/Housing | State of Charge Indicator |
|-----------------------|--------------------|------------------|-----------------------------------------------|---------------------|-----------------------|----------------------------------|-------------|------------------------|----------------|------------------|---------------------------|
| LI-145                | UBBL06             | 6140-01-542-4386 | 42.2 x 73.7 x 209.6                           | 15.2                | 9.4                   | 5.0                              | 143         | 140                    | 1021           | GE Noryl         | Yes                       |
| UBBL09                | UBBL09             |                  | 62.2 x 111.8 x 127.0                          | 11.1 or 22.8        | 9.2 or 18.4           | 3.0 or 6.0                       | 204         | 142                    | 1440           | Hard plastic     | Yes                       |
| LWC-L                 | UBBL01             |                  | 44.0 x 112.0 x 131.0                          | 15.2                | 8.0                   | 6.5                              | 121         | 131                    | 925            | Hard Plastic     | No                        |
| UBBL12                | UBBL12             |                  | 42.42 x 111.51 x 136.53                       | 15.2                | 7.0                   | 5.0                              | 109         | 128                    | 850            | Hard Plastic     | Yes                       |
| UBI-2590 SMBus        | UBBL10             | 6140-01-554-2347 | 62.2 x 111.8 x 127.0                          | 14.4 or 28.8        | 6.8 or 13.6           | 6.8 or 13.6                      | 206         | 143                    | 1440           | Hard Plastic     | Yes                       |
| UBBL04                | UBBL04             |                  | 38.1 x 64.8 x 95.3                            | 7.2                 | 7.0                   | 3.5                              | 47          | 134                    | 370            | Hard Plastic     | No                        |
| UBI-2590              | UBBL02             | 6140-01-553-3527 | 62.2 x 111.8 x 127.0                          | 14.4 or 28.8        | 6.8 or 13.6           | 6.0 or 12.0                      | 206         | 143                    | 1440           | Hard Plastic     | Yes                       |
| LI-7                  | UBBL03             |                  | 42.42 x 111.51 x 136.53                       | 15.2                | 8.4                   | 3                                | 127         | 133                    | 944            | Hard Plastic     | Yes                       |

Note (1): Terminals: LWC-L: Lemo connector EEG 0B 305 CLL; UBI-2590: SC-C-179495; UBBL03: Flat Contacts (302 Stainless plated with Sulfamate Nickel per ASTM B689, Type 1 Cable (connector: Lemo HEN.1F.305.XLNP)

Note (2): See individual datasheets for specific charging instructions.

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

## Chargers & Accessories



Ultralife Lithium-Ion Rechargeable batteries combine high-energy chemistry with state-of-the-art technology to produce a lightweight battery with a wide operating temp range with no memory effect.

### Chargers

| Ultralife Product No. | NSN              | Ultralife Part No. | Dimensions (mm)<br>Thickness x width x length | Charge Termination Voltage (V) | Max. Charge Rate (A) | Weight (grams) |
|-----------------------|------------------|--------------------|-----------------------------------------------|--------------------------------|----------------------|----------------|
| CH0001 - for LWC-L    |                  | CH0001             | 92 x 58 x 52                                  | 16.8                           | 3.0                  | 170            |
| CH0002 - for UBI-2590 |                  | CH0002             | 174 x 123.7 x 53.6                            | 16.8                           | 1.0                  | 432            |
| CH0003 - for UBI-2590 | 6130-01-499-7305 | CH0003             | 61 x 51 x 22 cm                               | 16.4                           | 1.1                  | 11 Kg          |
| CH0004 - for UBI-2590 | 6130-01-499-0352 | CH0004             | 36 x 31 x 16 cm                               | 16.4                           | 1.1                  | 5 Kg           |
| CH0005 - for UBBL04   |                  | CH0005             | 92 x 58 x 52                                  | 8.4                            | 2.0                  | 170            |
| CH0006 - for UBBL06   |                  | CH0006             | 31.62 x 14.02 x 28.50 cm                      | 16.8                           | 8.0                  | 6.35 Kb        |
| CH0007 - for UBBL03   |                  | CH0007             | 35.1 x 31.3 x 71.8 cm                         | 16.8                           | 2.0                  | 16.7 Kg        |
| CH0008 - for UBBL06   | 6130-01-545-1983 | CH0008             | 42 x 73 x 168                                 | 16.8                           | 2.0                  | 1.7 Kg         |
| CH0012 - for UBBL06   | 6130-01-545-1981 | CH0012             | 61.24 x 21.46 x 28.96 cm                      | 16.8                           | 4.0                  | 17.24 Kg       |
| CH0014 - for UBBL09   |                  | CH0014             | 124 x 175 x 50                                | 12.6                           | 2.0                  | 269            |
| CH0015 - for UBBL06   | 6130-01-542-5108 | CH0015             | 92 x 58 x 52                                  | 16.8                           | 3.0                  | 171            |

### Cables

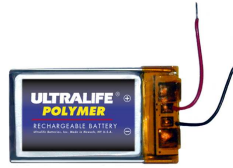
| Ultralife Product No.                    | Ultralife Part No. | Length (cm) | Type                | Connector   | Voltage |
|------------------------------------------|--------------------|-------------|---------------------|-------------|---------|
| CA0001 - for LWC-L                       | CA0001             | 61          | 2 Conductor; 22 AWG | Straight    | -       |
| CA0002 - for UBI-2590 and UBBL09         | CA0002             | 61          | 4 Conductor; 18 AWG | Straight    | -       |
| CA0003 - for UBI-2590                    | CA0003             | 61          | Vehicle Adaptor     | Straight    | -       |
| CA0005 - for UBBL03                      | CA0005             | 61          | 5 Conductor; 20 AWG | Straight    | 12V     |
| CA0006 - for BA-5390/U, UBI-2590, UBBL09 | CA0006             | 61          | 2 Conductor; 18 AWG | Right Angle | 24V     |
| CA0007 - for BA-5390/U, UBI-2590, UBBL09 | CA0007             | 61          | 2 Conductor; 18 AWG | Right Angle | 12V     |
| CA0008 - for BA-5390/U, UBI-2590, UBBL09 | CA0008             | 61          | 4 Conductor; 18 AWG | Right Angle | 12/24V  |
| CA0009 - for UBBL09                      | CA0009             | 61          | 6 Conductor; 22 AWG | Straight    | 12/24V  |

### Power Supplies

| Ultralife Product No.        | NSN              | Ultralife Part No. | Dimensions (inches)<br>Thickness x width x length | Output Voltage (V) | Max Output Power (W) | Weight (Kg) |
|------------------------------|------------------|--------------------|---------------------------------------------------|--------------------|----------------------|-------------|
| CH0018 - for CH0007 & CH0012 | 6130-01-545-1984 | CH0018             | 7.0 x 14.0 x 19.0                                 | 28 DC              | 1500                 | 12          |

# Ultralife Polymer Rechargeable Batteries

## Polymer Rechargeable



Ultralife Polymer® Rechargeable Batteries combine high-energy chemistry with state-of-the-art polymer technology to produce a rechargeable battery system that is lightweight, has a wide operating temperature range, and no memory effect. A wide variety of different battery outlines (length x width) in a range of thickness meet the needs of a wide range of applications.

- Temperature Range: -20°C to 60°C – operating and storage
- Maximum Discharge: See individual datasheets
- Terminals: See note 1
- Cycle Life: 300 cycles @ C/5 to 80% of initial capacity
- Self-Discharge: <10% per month
- Housing: Laminated Foil
- Memory Effect: None
- Charging: See note 2
- Transportation: See note 3

| Ultralife Product No. | Ultralife Part No. | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity<br>(@ C/5 Rate) | Energy<br>(Wh) | Energy Density<br>(Wh/kg) | Weight<br>(grams) |
|-----------------------|--------------------|-----------------------------------------------|---------------------|----------------------------------|----------------|---------------------------|-------------------|
| UBC36106102/PCM       | UBC011             | 4.0 x 107 x 103                               | 3.7                 | 3.3 Ah                           | 12.2           | 144                       | 85.0              |
| UBC581730/PCM         | UBC005             | 5.8 x 18 x 31.5                               | 3.7                 | 250 mAh                          | 0.925          | 142                       | 6.5               |
| UBC502030/PCM         | UBC006             | 5.0 x 21 x 31                                 | 3.7                 | 180 mAh                          | 0.7            | 149                       | 4.5               |
| UBC322030/PCM         | UBC008             | 3.2 x 22 x 31                                 | 3.7                 | 120 mAh                          | 0.4            | 148                       | 3.0               |

Note (1): Terminals: Black and red wired (+) (-)

Note (2): Maximum charge rate at C/2 to 4.2 Volts in a temperature range of 0° to 45°C. Hold at 4.2 Volts until current declines to C/10.

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

## Lithium ION Rechargeable



- Temperature Range: -20°C to 60°C – operating and storage
- Maximum Discharge: See individual datasheets
- Terminals: See note 1
- Cycle Life: 500 cycles @ C/5 to 80% of initial capacity (see note 6)
- Self-Discharge: <10% per month
- Housing: Aluminum Can
- Memory Effect: None
- Charging: See note 2
- Transportation: See note 5

| Ultralife Product No. | Ultralife Part No. | Dimensions (mm)<br>Thickness x width x length | Average Voltage (V) | Nominal Capacity<br>(@ C/5 Rate) | Energy<br>(Wh) | Energy Density<br>(Wh/kg) | Weight<br>(grams) |
|-----------------------|--------------------|-----------------------------------------------|---------------------|----------------------------------|----------------|---------------------------|-------------------|
| UBI-2590              | UBBL02             | 62.2 x 111.8 x 127.0                          | 14.4 or 28.8        | 6.8 or 13.6                      | 206            | 143                       | 1440              |
| UBBL04 (see note 4)   | UBBL04             | 38.1 x 64.8 x 95.3                            | 7.2                 | 6.5 Ah                           | 47             | 134                       | 350.0             |
| UBBL07 (see note 4)   | UBBL07             | 20 x 60 x 70                                  | 3.7                 | 6.1 Ah                           | 22.6           | 141                       | 160.0             |
| UBBP01 (see note 3)   | UBBP01             | 5.8 x 51.5 x 71                               | 3.7                 | 1.8 Ah                           | 6.8            | 148                       | 46.0              |
| UBP103450/PCM         | UBP001             | 11 x 36 x 54                                  | 3.7                 | 1.7 Ah                           | 6.5            | 176                       | 41.0              |
| UBP053450/PCM         | UBP002             | 6.2 x 36 x 54                                 | 3.7                 | 900 mAh                          | 3.4            | 170                       | 24.0              |
| UBP053048/PCM         | UBP005             | 5.8 x 31 x 52                                 | 3.7                 | 740 mAh                          | 2.8            | 165                       | 17.0              |
| UBP043048/PCM         | UBP003             | 5.2 x 32 x 52                                 | 3.7                 | 650 mAh                          | 2.5            | 156                       | 16.0              |
| UBP363450/PCM         | UBP004             | 4.4 x 36 x 54                                 | 3.7                 | 580 mAh                          | 2.2            | 147                       | 15.0              |

Note (1): Terminals: Black and red wired (+) (-)

Note (2): Maximum charge rate at C/2 to 4.2 Volts in a temperature range of 0° to 45°C. Hold at 4.2 Volts until current declines to C/10

Note (3): UBBP01: Battery pack with wire leads and JST connector.

Note (4): UBBL07: Battery pack with wire leads and Molex connector 87439-0400. UBBL04: Battery pack with hard plastic case.

Note (5): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (6) UBBL07: > 300 cycles @ C/5 to 80% of initial capacity



## Magnesium-Silver Chloride



- Utilizing salt water as an electrolyte, Ultralife's Magnesium-Silver Chloride seawater batteries provide high energy in all sea conditions and depths and can be stored indefinitely in a wide variety of conditions. Batteries activate instantly in seawater at any temperature and depth.
- These batteries can be designed for a wide range of duty cycles, from a few seconds to several days, for low and high current, pulsed and constant operation.
- We specialize in customizing batteries that conform to NATO's highest quality rating.

The culmination of more than 20 years of design and development, the Ultralife Sea water activated primary battery system offers exceptional reliability and performance. Applications in which Ultralife sea water batteries excel include sonobuoys, underwater defense systems, air-sea rescue equipment, airborne surveillance drones and meteorological radiosondes.

Ultralife's sea water activated battery system has a high energy density magnesium-silver chloride chemistry that is ideal for applications with critical weight, space and energy requirements. The system features outstanding electrode stability – batteries can be stored almost indefinitely, in a wide variety of conditions, without any appreciable deterioration of capacity or performance. The system also provides fast activation in all sea conditions, from sub-zero temperatures upwards and from the surface down to any depth.

Each sea water battery design is unique to each application and operating environment. Armed with the following information, Ultralife will meet any specification precisely, with maximum energy efficiency and no wasted capacity.

- Voltage required
- Duty cycle required
- Activation time required
- Salinity of service environment
- Depth required
- Storage conditions required
- Shock and vibration tolerances
- Size restrictions

Ultralife provides expertise throughout the entire design process, from analysis of required technical specifications to complete testing in any conditions likely to be encountered in actual service. Ultralife batteries are assembled in strictly controlled conditions to assure the highest quality, and Ultralife holds NATO's highest approval rating – AQAP-1.

