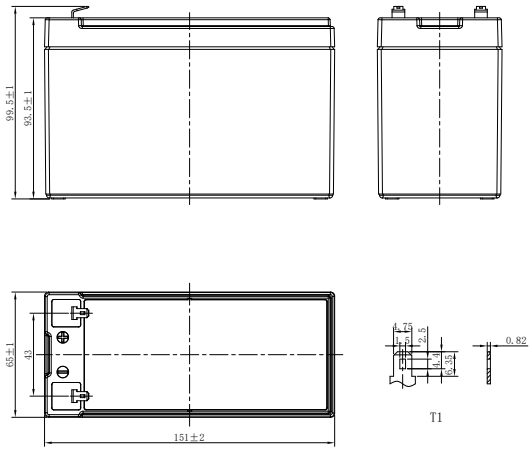
# LCP SERIES-PUNCH BATTERY

LCP12-34W (12V34W)

LEOCH BATTERY




## CHARACTERISTICS

| Item | | Specifications |
|---|---|---|
| Rated Voltage | | 12V |
| Nominal Rate (25℃) | $W_{15}$,1.67V/cell | 34W/cell |
| Nominal Capacity (25℃) | $C_{20}$,1.75V/cell | 9Ah |
| Dimension | Length | 151mm (5.94inches) |
| | Width | 65mm (2.56inches) |
| | Container Height | 93.5mm (3.68inches) |
| | Total Height | 99.5mm (3.92inches) |
| Approx Weight | | 2.26kg (4.98lbs) |
| Terminal | | T1/T2 |
| Container Material | | ABS (UL94 HB or V-0 optional) |
| Short-circuit current | | 252A |
| Internal Resistance (25℃) | | Approx 26 mΩ (Fully charged) |
| Operating Temp. Range | Discharge | -15~50℃ (5~122°F) |
| | Charge | -20~40℃ (-4~104°F) |
| | Storage | -15~40℃ (5~104°F) |
| Nominal Operating Temp. Range | | 25±3℃ (77±5°F) |
| Max.Charging Current (25℃) | | 0.3C |
| Charge voltage (25℃) | Standby Use | Cycle Use |
| | 2.25-2.30V/cell | 2.35-2.45V/cell |
| Temp. Coeffcient | -3mV/cell/℃ | -5mV/cell/℃ |
| Effect of temp. to Capacity | 40℃ (104°F) | 103% |
| | 25℃ (77°F) | 100% |
| | 0℃ (32°F) | 86% |
| Self Discharge | ≤3% per month at 25°C (77°F). LCP series batteries may be stored up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. | |

## DISCHARGE TABLE

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

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.85V/cell | 27.5 | 18.9 | 14.4 | 11.7 | 8.60 | 6.21 | 5.03 | 3.88 | 2.99 | 2.11 | 1.64 | 1.37 | 1.15 | 0.900 | 0.739 | 0.439 |
| 1.80V/cell | 29.6 | 20.0 | 15.2 | 12.1 | 8.86 | 6.38 | 5.15 | 3.96 | 3.05 | 2.15 | 1.67 | 1.39 | 1.17 | 0.920 | 0.749 | 0.445 |
| 1.75V/cell | 31.2 | 20.8 | 15.7 | 12.5 | 9.09 | 6.52 | 5.27 | 4.03 | 3.11 | 2.18 | 1.69 | 1.40 | 1.18 | 0.930 | 0.757 | 0.450 |
| 1.70V/cell | 32.7 | 21.6 | 16.2 | 12.8 | 9.33 | 6.67 | 5.36 | 4.10 | 3.15 | 2.21 | 1.71 | 1.42 | 1.19 | 0.940 | 0.764 | 0.453 |
| 1.67V/cell | 33.8 | 22.3 | 16.6 | 13.1 | 9.49 | 6.77 | 5.44 | 4.15 | 3.19 | 2.23 | 1.73 | 1.43 | 1.20 | 0.940 | 0.770 | 0.456 |
| 1.60V/cell | 35.8 | 23.2 | 17.1 | 13.5 | 9.75 | 6.94 | 5.57 | 4.24 | 3.25 | 2.28 | 1.76 | 1.46 | 1.22 | 0.960 | 0.780 | 0.462 |

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

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.85V/cell | 55.7 | 38.4 | 30.3 | 24.1 | 17.8 | 12.9 | 10.5 | 7.57 | 5.86 | 4.15 | 3.24 | 2.70 | 2.27 | 1.79 | 1.47 | 0.879 |
| 1.80V/cell | 59.3 | 40.4 | 31.6 | 24.9 | 18.2 | 13.2 | 10.7 | 7.71 | 5.96 | 4.21 | 3.28 | 2.73 | 2.30 | 1.82 | 1.49 | 0.889 |
| 1.75V/cell | 61.8 | 41.7 | 32.4 | 25.4 | 18.6 | 13.4 | 10.9 | 7.82 | 6.05 | 4.27 | 3.32 | 2.76 | 2.33 | 1.84 | 1.50 | 0.900 |
| 1.70V/cell | 64.1 | 43.1 | 33.3 | 26.0 | 19.0 | 13.7 | 11.0 | 7.94 | 6.12 | 4.32 | 3.36 | 2.80 | 2.35 | 1.85 | 1.52 | 0.907 |
| 1.67V/cell | 65.7 | 44.1 | 34.0 | 26.5 | 19.3 | 13.9 | 11.2 | 8.02 | 6.18 | 4.36 | 3.39 | 2.82 | 2.37 | 1.87 | 1.53 | 0.914 |
| 1.60V/cell | 68.4 | 45.4 | 34.9 | 27.2 | 19.7 | 14.1 | 11.4 | 8.16 | 6.28 | 4.43 | 3.44 | 2.85 | 2.40 | 1.89 | 1.54 | 0.924 |

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## APPLICATIONS

- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

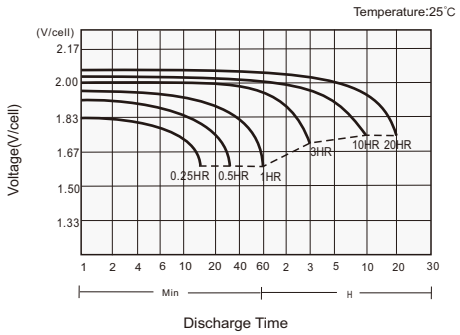
## GENERAL FEATURES

- 5 years design life (25℃)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Automatic grid punch manufacturing process and unique technology optimizes power capacity,cell consistency, and long-term reliability and service life

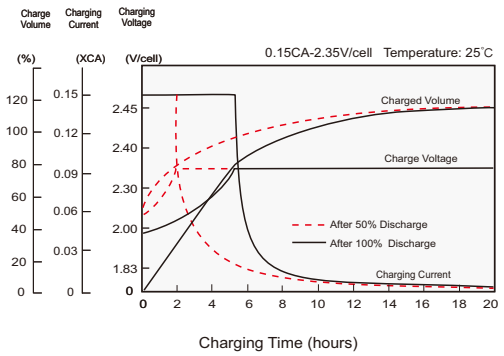
## STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL,CE Approved
- Manufactured in Leoch®IATF 16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

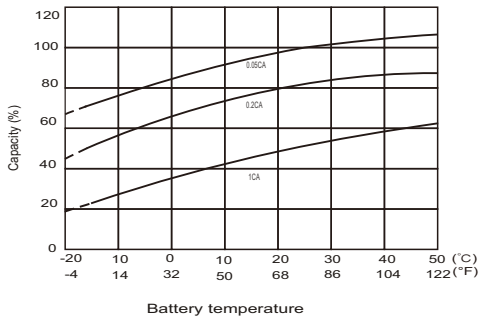
## Discharge Characteristics



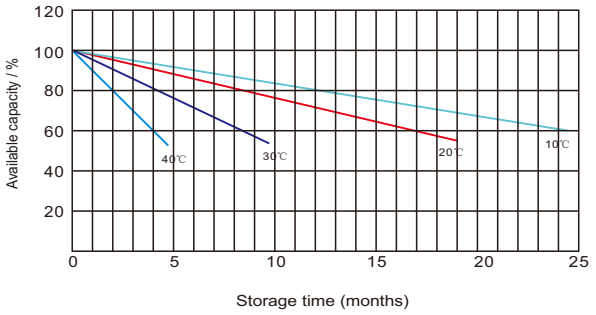

## Charging Characteristics




## Effects of Temperature on Capacity




## Self Discharge Characteristics





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