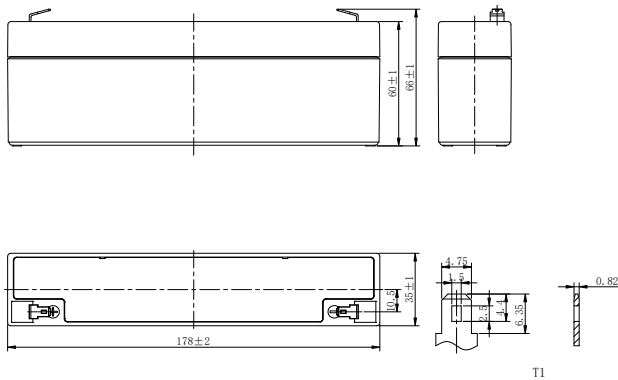


LP SERIES-GENERAL PURPOSE

LP12-2.3 (12V2.3Ah)



CHARACTERISTICS

| Item | Specifications | |
|-------------------------------|--|---------------------|
| Rated Voltage | 12V | |
| Nominal Capacity (25°C) | C ₂₀ , 1.75V/cell | 2.3Ah |
| Dimension | Length | 178mm (7.01inches) |
| | Width | 35mm (1.38inches) |
| | Container Height | 60mm (2.36inches) |
| | Total Height | 66mm (2.60inches) |
| Approx Weight | 0.93kg (2.05lbs) | |
| Terminal | T1 | |
| Container Material | ABS (UL94 HB or V-0 optional) | |
| Short-circuit current | 64.4A | |
| Internal Resistance (25°C) | Approx 56 mΩ (Fully charged) | |
| Operating Temp. Range | Discharge | -15~50°C (5~122°F) |
| | Charge | -20~40°C (-4~104°F) |
| | Storage | -15~40°C (5~104°F) |
| Nominal Operating Temp. Range | 25±3°C (77±5°F) | |
| Max. Charging Current (25°C) | 0.3C | |
| Charge voltage (25°C) | Standby Use | Cycle Use |
| | 2.25-2.30V/cell | 2.35-2.45V/cell |
| Temp. Coefficient | -3mV/cell/°C | -5mV/cell/°C |
| | 40°C (104°F) | 103% |
| Effect of temp. to Capacity | 25°C (77°F) | 100% |
| | 0°C (32°F) | 86% |
| | ≤3% per month at 25°C (77°F). LP 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. | |
| Self Discharge | | |

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 | 6.69 | 4.85 | 3.74 | 3.08 | 2.32 | 1.73 | 1.38 | 1.03 | 0.827 | 0.606 | 0.488 | 0.399 | 0.339 | 0.260 | 0.211 | 0.113 |
| 1.80V/cell | 7.25 | 5.09 | 3.88 | 3.18 | 2.37 | 1.76 | 1.42 | 1.05 | 0.840 | 0.616 | 0.494 | 0.410 | 0.343 | 0.263 | 0.214 | 0.114 |
| 1.75V/cell | 7.84 | 5.34 | 4.02 | 3.27 | 2.44 | 1.80 | 1.44 | 1.06 | 0.853 | 0.625 | 0.502 | 0.415 | 0.349 | 0.267 | 0.216 | 0.115 |
| 1.70V/cell | 8.43 | 5.59 | 4.17 | 3.37 | 2.49 | 1.84 | 1.47 | 1.08 | 0.867 | 0.634 | 0.508 | 0.420 | 0.353 | 0.270 | 0.219 | 0.116 |
| 1.67V/cell | 8.77 | 5.74 | 4.25 | 3.43 | 2.52 | 1.86 | 1.48 | 1.09 | 0.875 | 0.639 | 0.512 | 0.427 | 0.358 | 0.273 | 0.221 | 0.117 |
| 1.60V/cell | 9.56 | 6.09 | 4.45 | 3.56 | 2.60 | 1.90 | 1.52 | 1.11 | 0.893 | 0.652 | 0.522 | 0.431 | 0.364 | 0.276 | 0.224 | 0.118 |
| 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 | 12.7 | 9.28 | 7.17 | 5.93 | 4.48 | 3.35 | 2.70 | 2.00 | 1.62 | 1.19 | 0.960 | 0.813 | 0.681 | 0.516 | 0.420 | 0.225 |
| 1.80V/cell | 13.7 | 9.69 | 7.42 | 6.09 | 4.58 | 3.42 | 2.75 | 2.03 | 1.64 | 1.20 | 0.972 | 0.822 | 0.689 | 0.521 | 0.425 | 0.228 |
| 1.75V/cell | 14.7 | 10.1 | 7.64 | 6.25 | 4.66 | 3.47 | 2.78 | 2.05 | 1.66 | 1.23 | 0.984 | 0.832 | 0.697 | 0.527 | 0.430 | 0.229 |
| 1.70V/cell | 15.7 | 10.5 | 7.87 | 6.40 | 4.75 | 3.52 | 2.82 | 2.09 | 1.68 | 1.24 | 1.00 | 0.842 | 0.704 | 0.533 | 0.434 | 0.232 |
| 1.67V/cell | 16.2 | 10.8 | 8.02 | 6.49 | 4.80 | 3.55 | 2.84 | 2.11 | 1.69 | 1.25 | 1.00 | 0.847 | 0.710 | 0.537 | 0.437 | 0.232 |
| 1.60V/cell | 17.6 | 11.4 | 8.32 | 6.71 | 4.92 | 3.63 | 2.90 | 2.14 | 1.72 | 1.27 | 1.02 | 0.860 | 0.720 | 0.545 | 0.444 | 0.235 |

LP SERIES-GENERAL PURPOSE

LP12-2.3 (12V2.3Ah)



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

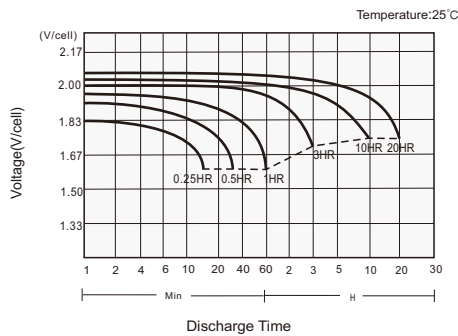
GENERAL FEATURES

- 5 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

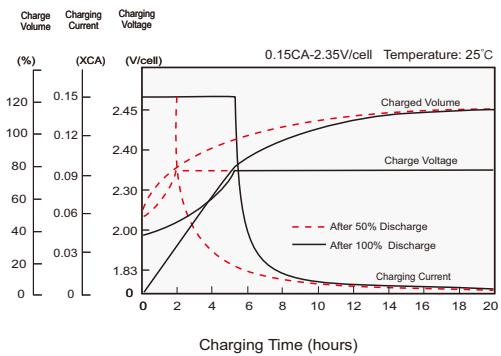
STANDARDS

- 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

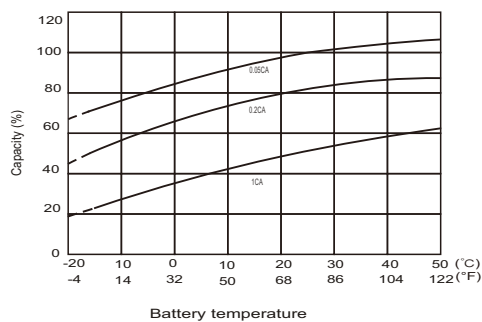
Discharge Characteristics



Charging Characteristics



Effects of Temperature on Capacity



Self Discharge Characteristics

