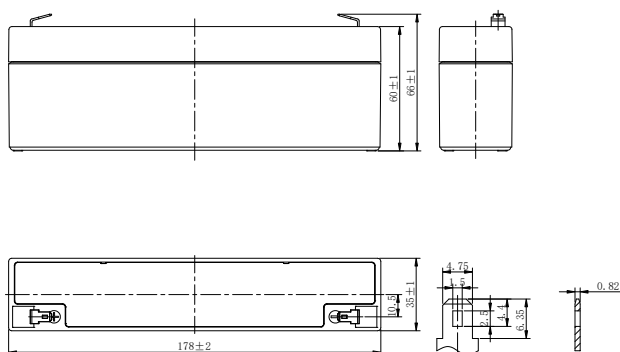


LP SERIES-GENERAL PURPOSE

LP12-2.3 (12V2.3Ah)



T1

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 | 0.925kg (2.04lbs) | |
| Terminal | T1 | |
| Container Material | ABS (UL94 HB or V-0 optional) | |
| Short-circuit current | 64.4A | |
| Internal Resistance (25°C) | Approx 95 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 | 6.10 | 4.48 | 3.56 | 2.90 | 2.16 | 1.62 | 1.32 | 0.989 | 0.792 | 0.569 | 0.453 | 0.385 | 0.329 | 0.259 | 0.211 | 0.113 |
| 1.80V/cell | 6.61 | 4.71 | 3.70 | 2.99 | 2.21 | 1.65 | 1.35 | 1.01 | 0.804 | 0.578 | 0.459 | 0.391 | 0.334 | 0.262 | 0.214 | 0.114 |
| 1.75V/cell | 7.14 | 4.94 | 3.83 | 3.08 | 2.27 | 1.69 | 1.37 | 1.02 | 0.817 | 0.587 | 0.466 | 0.396 | 0.338 | 0.265 | 0.216 | 0.115 |
| 1.70V/cell | 7.68 | 5.17 | 3.97 | 3.17 | 2.32 | 1.72 | 1.40 | 1.04 | 0.830 | 0.595 | 0.472 | 0.401 | 0.342 | 0.269 | 0.219 | 0.116 |
| 1.67V/cell | 7.99 | 5.31 | 4.05 | 3.23 | 2.35 | 1.74 | 1.41 | 1.05 | 0.838 | 0.600 | 0.476 | 0.404 | 0.345 | 0.271 | 0.221 | 0.117 |
| 1.60V/cell | 8.71 | 5.63 | 4.24 | 3.35 | 2.42 | 1.78 | 1.45 | 1.07 | 0.855 | 0.612 | 0.485 | 0.411 | 0.351 | 0.275 | 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 | 11.6 | 8.58 | 6.83 | 5.58 | 4.17 | 3.14 | 2.58 | 1.93 | 1.55 | 1.12 | 0.892 | 0.761 | 0.652 | 0.514 | 0.420 | 0.225 |
| 1.80V/cell | 12.5 | 8.96 | 7.07 | 5.73 | 4.26 | 3.20 | 2.62 | 1.96 | 1.57 | 1.13 | 0.903 | 0.770 | 0.660 | 0.519 | 0.425 | 0.228 |
| 1.75V/cell | 13.4 | 9.35 | 7.28 | 5.88 | 4.34 | 3.25 | 2.65 | 1.98 | 1.59 | 1.15 | 0.914 | 0.779 | 0.667 | 0.525 | 0.430 | 0.229 |
| 1.70V/cell | 14.3 | 9.73 | 7.50 | 6.02 | 4.42 | 3.30 | 2.69 | 2.01 | 1.61 | 1.16 | 0.925 | 0.788 | 0.675 | 0.531 | 0.434 | 0.232 |
| 1.67V/cell | 14.8 | 9.96 | 7.64 | 6.11 | 4.47 | 3.33 | 2.71 | 2.03 | 1.62 | 1.17 | 0.931 | 0.793 | 0.679 | 0.535 | 0.437 | 0.232 |
| 1.60V/cell | 16.0 | 10.5 | 7.93 | 6.31 | 4.58 | 3.40 | 2.77 | 2.06 | 1.65 | 1.19 | 0.947 | 0.805 | 0.690 | 0.543 | 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

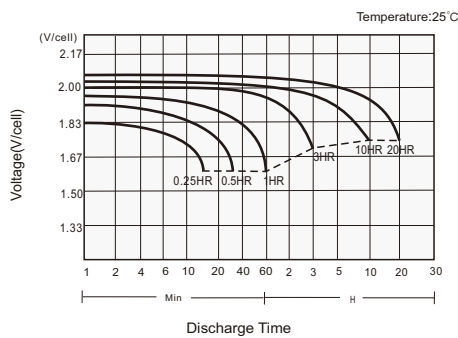
GENERAL FEATURES

- 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

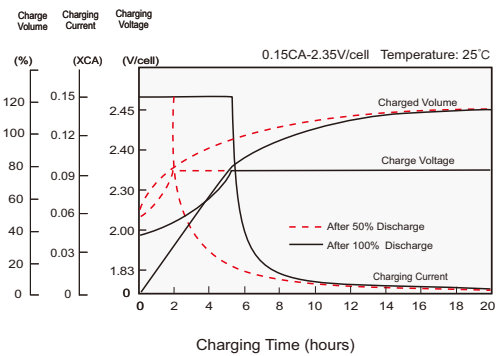
STANDARDS

- 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

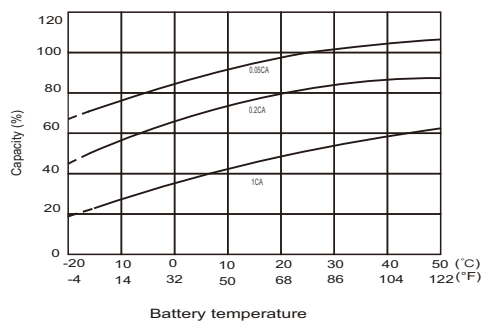
Discharge Characteristics



Charging Characteristics



Effects of Temperature on Capacity



Self Discharge Characteristics

