



LP Series-General Purpose

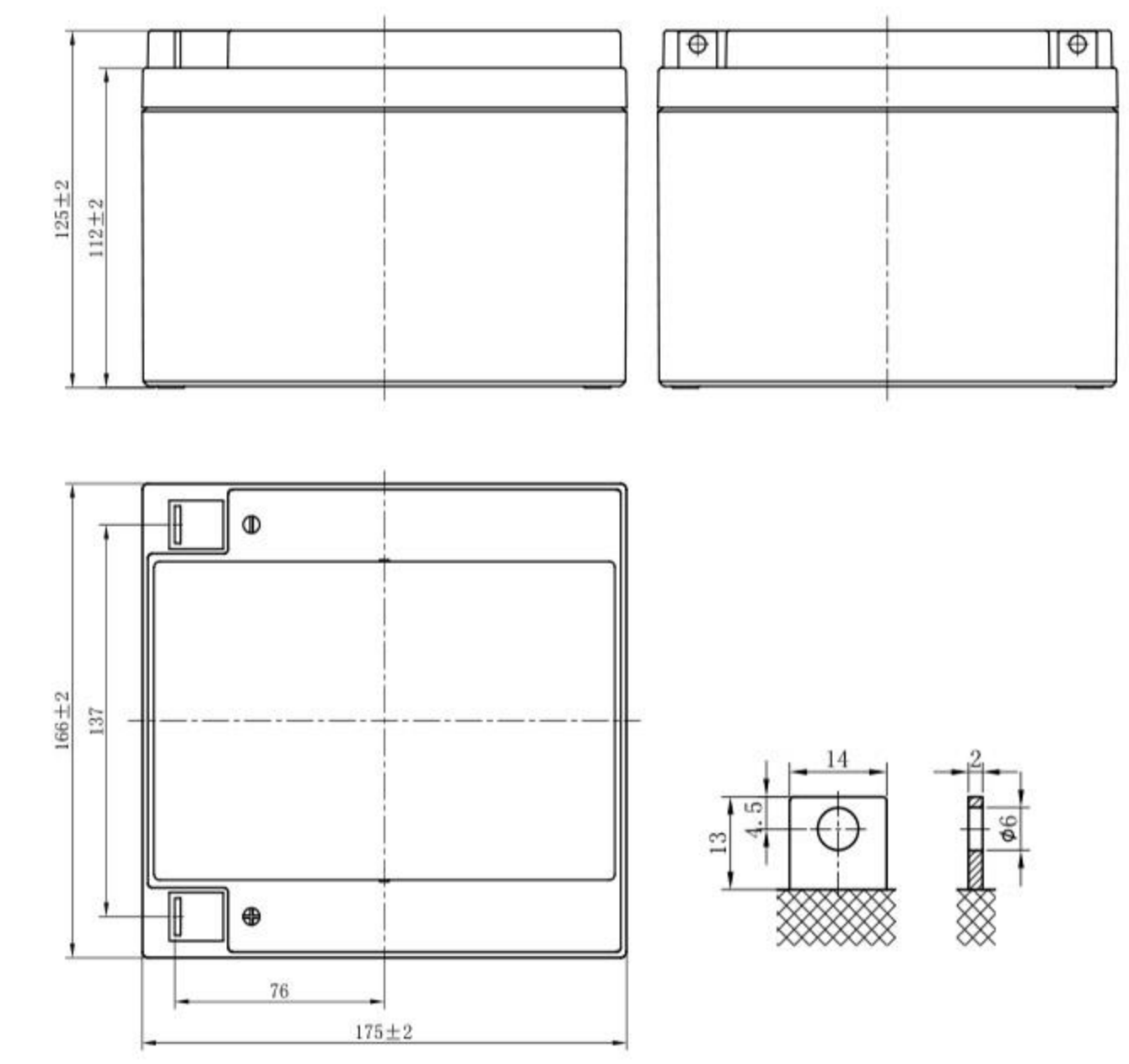
LP12-28(12V28Ah)

Specifications

| | | |
|-------------------------------|---|--------------------------------|
| Rated Voltage | 12V | |
| Nominal Capacity | 28.0Ah | (C ₂₀ , 1.75V/cell) |
| Dimension | Length | 166±2mm (6.54 inches) |
| | Width | 175±2mm (6.93 inches) |
| | Container Height | 125±2mm (4.92 inches) |
| | Total Height | 125±2mm (4.92 inches) |
| Approx Weight | 8.4 Kg (18.5 lbs) | |
| Terminal | T3 | |
| Container Material | ABS | |
| Rated Capacity (25°C) | 28.0 Ah | (20hr, 1.40A, 1.75V/cell) |
| | 26.3 Ah | (10hr, 2.63A, 1.75V/cell) |
| | 23.9 Ah | (5hr, 4.78A, 1.75V/cell) |
| | 21.2 Ah | (3hr, 7.08A, 1.75V/cell) |
| | 18.2 Ah | (1hr, 18.2A, 1.60V/cell) |
| Max. Discharge Current | 420A (5s) | |
| Internal Resistance (25°C) | Approx 14mΩ | |
| 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) | |
| Cycle Use | Initial Charging Current less than 8.4A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C | |
| Standby Use | Initial Charging Current less than 8.4A. Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C | |
| Effect of temp. to Capacity | 40°C (104°F) | 103% |
| | 25°C (77°F) | 100% |
| | 0°C (32°F) | 86% |
| Self Discharge | LP series batteries may be stored for 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. | |



Layout



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 | 73.1 | 53.3 | 43.1 | 35.5 | 26.8 | 20.0 | 16.5 | 12.1 | 9.50 | 6.86 | 5.46 | 4.65 | 3.98 | 3.14 | 2.57 | 1.37 |
| 1.80V/cell | 78.6 | 56.5 | 45.3 | 36.9 | 27.7 | 20.5 | 16.9 | 12.3 | 9.68 | 6.97 | 5.54 | 4.72 | 4.04 | 3.18 | 2.60 | 1.38 |
| 1.75V/cell | 82.8 | 58.8 | 46.8 | 37.9 | 28.4 | 21.0 | 17.3 | 12.6 | 9.85 | 7.08 | 5.62 | 4.78 | 4.09 | 3.22 | 2.63 | 1.40 |
| 1.70V/cell | 86.7 | 61.1 | 48.3 | 39.0 | 29.1 | 21.4 | 17.6 | 12.8 | 10.0 | 7.18 | 5.70 | 4.84 | 4.14 | 3.25 | 2.65 | 1.41 |
| 1.67V/cell | 89.7 | 62.8 | 49.5 | 39.8 | 29.6 | 21.8 | 17.8 | 12.9 | 10.1 | 7.25 | 5.75 | 4.89 | 4.18 | 3.28 | 2.67 | 1.42 |
| 1.60V/cell | 95.2 | 65.5 | 51.2 | 41.0 | 30.4 | 22.3 | 18.2 | 13.2 | 10.3 | 7.39 | 5.85 | 4.96 | 4.24 | 3.32 | 2.71 | 1.44 |

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 | 138.3 | 101.4 | 82.6 | 68.4 | 51.8 | 38.7 | 32.1 | 23.6 | 18.6 | 13.5 | 10.8 | 9.18 | 7.88 | 6.22 | 5.10 | 2.74 |
| 1.80V/cell | 147.2 | 106.8 | 86.2 | 70.7 | 53.2 | 39.6 | 32.8 | 24.0 | 18.9 | 13.7 | 10.9 | 9.30 | 7.99 | 6.30 | 5.16 | 2.77 |
| 1.75V/cell | 153.5 | 110.3 | 88.5 | 72.3 | 54.3 | 40.3 | 33.3 | 24.4 | 19.2 | 13.9 | 11.0 | 9.41 | 8.07 | 6.37 | 5.21 | 2.80 |
| 1.70V/cell | 159.1 | 113.9 | 90.9 | 74.0 | 55.5 | 41.1 | 33.8 | 24.8 | 19.4 | 14.0 | 11.2 | 9.52 | 8.16 | 6.43 | 5.26 | 2.82 |
| 1.67V/cell | 163.3 | 116.5 | 92.8 | 75.3 | 56.3 | 41.6 | 34.3 | 25.0 | 19.6 | 14.2 | 11.3 | 9.59 | 8.23 | 6.47 | 5.29 | 2.84 |
| 1.60V/cell | 169.9 | 119.9 | 95.4 | 77.2 | 57.6 | 42.4 | 34.9 | 25.5 | 19.9 | 14.4 | 11.4 | 9.72 | 8.32 | 6.56 | 5.36 | 2.88 |



LP Series-General Purpose LP12-28(12V28Ah)



Applications

- All purpose
- 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

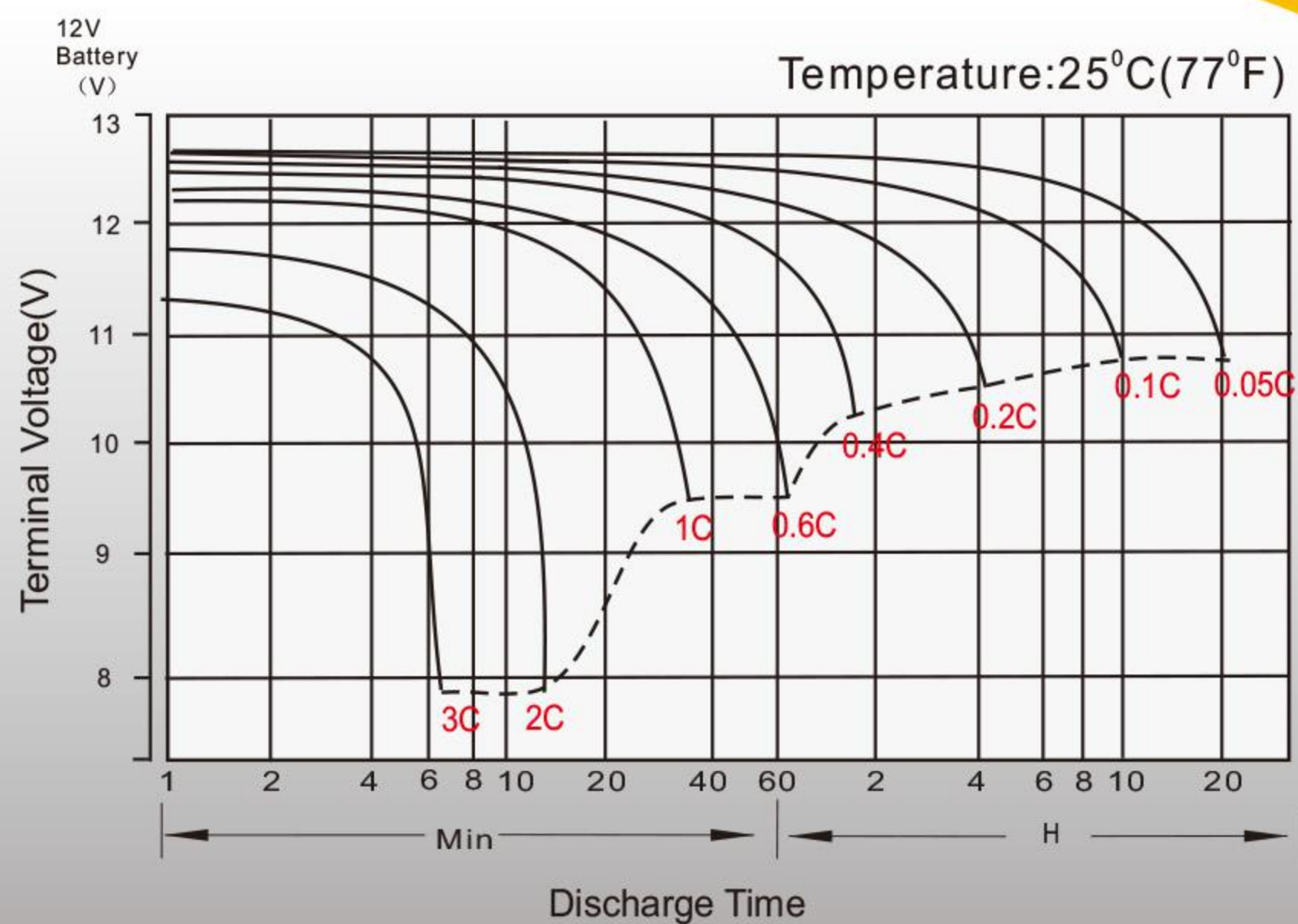
General Features

- 5 years design life(25°C)
- Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- PbCaSn alloy for plate grids: less gassing, less self-discharging
- High quality AGM separator: extend cycle life and prevent micro short circuit
- High purity raw material: ensure low self discharge rate

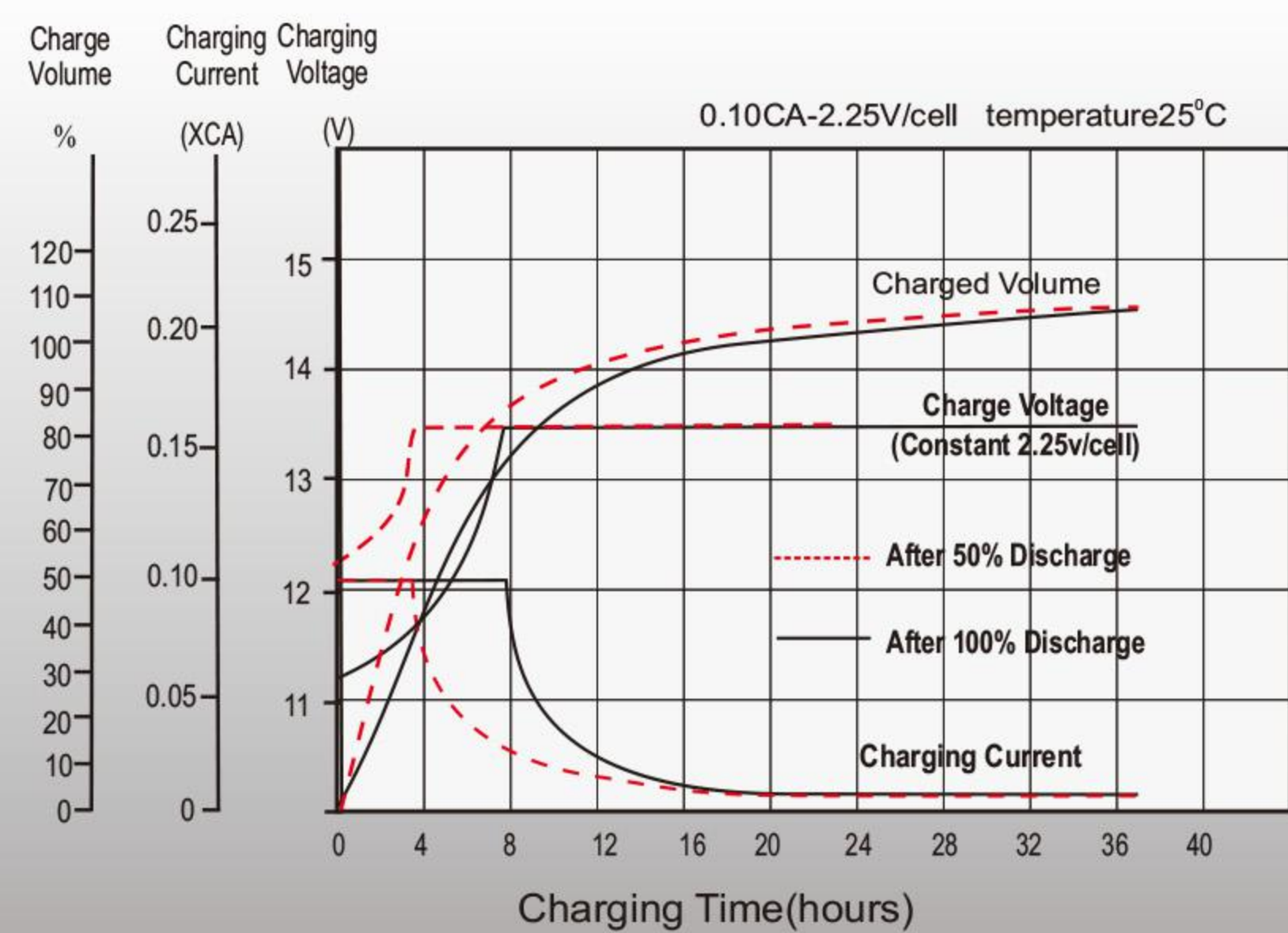
Standards

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Certified
- Manufactured in Leoch®IATF16949, ISO45001,ISO 9001 and ISO 14001 certified production facilities

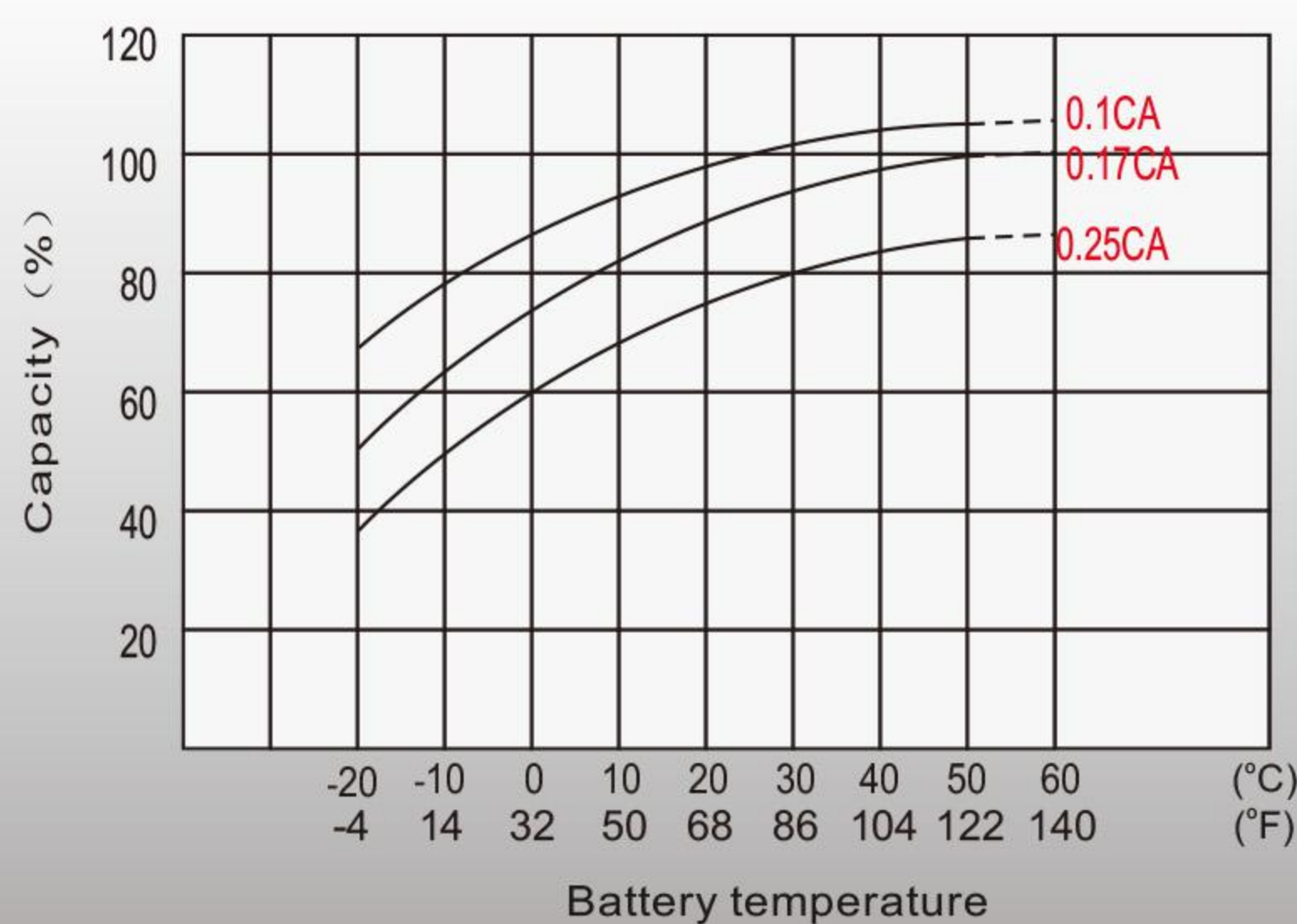
Discharge Characteristics



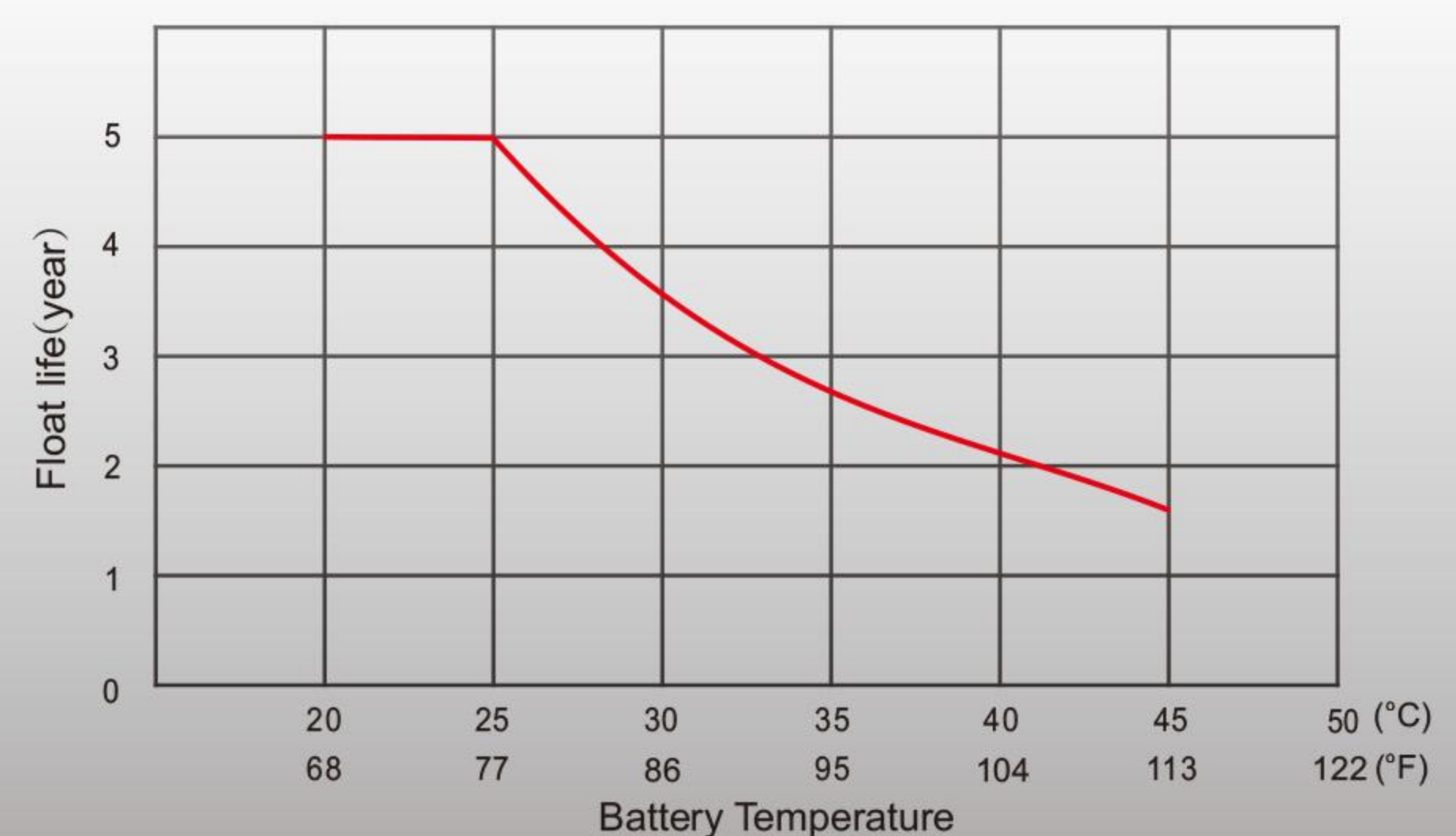
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Float Service Life



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