

Datasheet

Sealed Lead-Acid Battery

General Purpose

537-5472(12V3.2Ah)

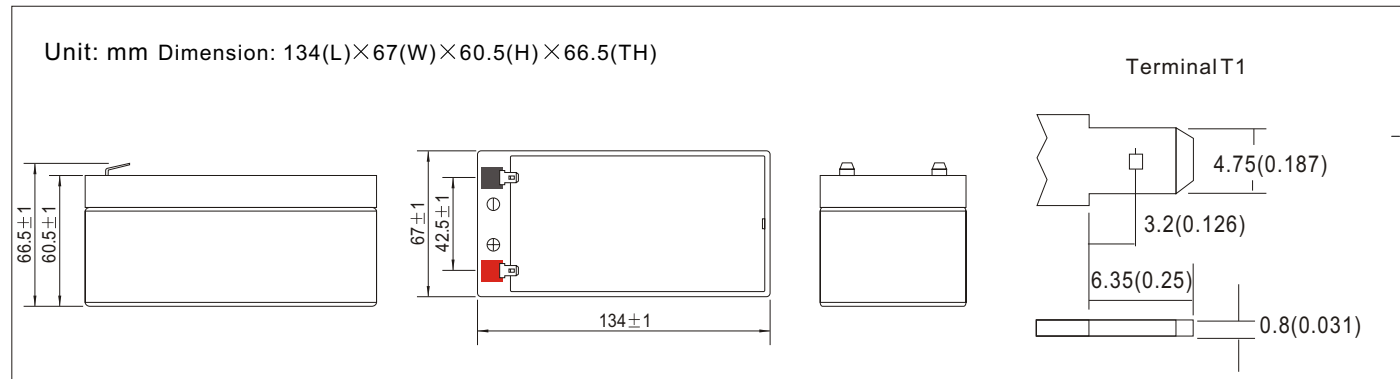
Specification

| | |
|--|--|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 3.2Ah@20hr-rate to 1.80V per cell @25°C |
| Weight | Approx 1.35 kg |
| Max. Discharge Current | 48.0 A(5 sec) |
| Internal Resistance | Approx 45mΩ |
| Operating Temp.Range | Discharge : -15~50°C (5~122°F) Charge : 0~40°C (32~104°F) Storage : -15~40°C (5~104°F) |
| Nominal Operating Temp. Range | 25±3°C (77±5°F) |
| Float charging Voltage | 13.5 to 13.8 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current Limit | 0.96A |
| Equalization and Cycle Service | 14.4 to 15.0 VDC/unit Average at 25°C |
| Self Discharge | The batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using. |
| Terminal | T1 |
| Container Material | A.B.S. (UL94-HB) , Flammability resistance of UL94-V0 can be available upon request. |

Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system

Dimensions



Constant Current Discharge Characteristics : A (25 °C)

Amps

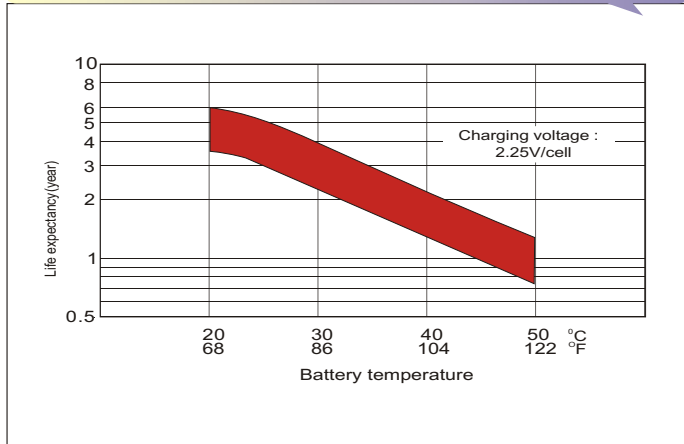
| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.85V/cell | 6.14 | 4.28 | 3.53 | 3.06 | 2.46 | 1.89 | 1.55 | 0.944 | 0.719 | 0.591 | 0.502 | 0.435 | 0.345 | 0.287 | 0.158 |
| 1.80V/cell | 7.55 | 5.11 | 4.10 | 3.47 | 2.72 | 2.06 | 1.66 | 1.00 | 0.756 | 0.622 | 0.524 | 0.454 | 0.358 | 0.298 | 0.160 |
| 1.75V/cell | 8.95 | 5.78 | 4.52 | 3.77 | 2.91 | 2.19 | 1.75 | 1.05 | 0.783 | 0.641 | 0.538 | 0.465 | 0.368 | 0.303 | 0.162 |
| 1.70V/cell | 10.2 | 6.37 | 4.89 | 4.05 | 3.05 | 2.27 | 1.82 | 1.09 | 0.809 | 0.657 | 0.551 | 0.476 | 0.374 | 0.308 | 0.164 |
| 1.65V/cell | 11.2 | 6.85 | 5.17 | 4.25 | 3.18 | 2.36 | 1.90 | 1.12 | 0.829 | 0.670 | 0.563 | 0.485 | 0.380 | 0.313 | 0.167 |
| 1.60V/cell | 11.8 | 7.14 | 5.39 | 4.39 | 3.27 | 2.41 | 1.94 | 1.16 | 0.849 | 0.687 | 0.575 | 0.495 | 0.388 | 0.318 | 0.168 |

Constant Power Discharge Characteristics : W (25 °C)

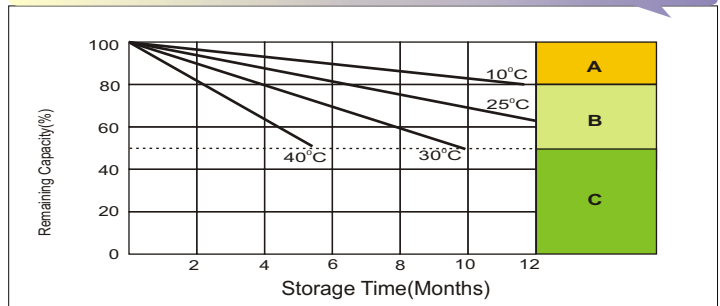
Watts

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|
| 1.85V/cell | 11.6 | 8.16 | 6.79 | 5.93 | 4.79 | 3.71 | 3.04 | 1.87 | 1.43 | 1.18 | 1.00 | 0.872 | 0.695 | 0.579 | 0.320 |
| 1.80V/cell | 14.1 | 9.64 | 7.81 | 6.66 | 5.27 | 4.01 | 3.26 | 1.98 | 1.49 | 1.23 | 1.04 | 0.905 | 0.716 | 0.596 | 0.322 |
| 1.75V/cell | 16.5 | 10.8 | 8.53 | 7.20 | 5.59 | 4.24 | 3.41 | 2.05 | 1.54 | 1.26 | 1.06 | 0.921 | 0.731 | 0.604 | 0.322 |
| 1.70V/cell | 18.5 | 11.8 | 9.15 | 7.67 | 5.83 | 4.38 | 3.53 | 2.12 | 1.58 | 1.29 | 1.08 | 0.938 | 0.738 | 0.610 | 0.326 |
| 1.65V/cell | 20.1 | 12.5 | 9.56 | 7.97 | 6.03 | 4.52 | 3.66 | 2.17 | 1.61 | 1.31 | 1.10 | 0.952 | 0.746 | 0.616 | 0.329 |
| 1.60V/cell | 20.8 | 12.9 | 9.86 | 8.13 | 6.13 | 4.58 | 3.71 | 2.22 | 1.64 | 1.33 | 1.12 | 0.966 | 0.758 | 0.623 | 0.330 |

Effect of Temperature on Long Term Float Life

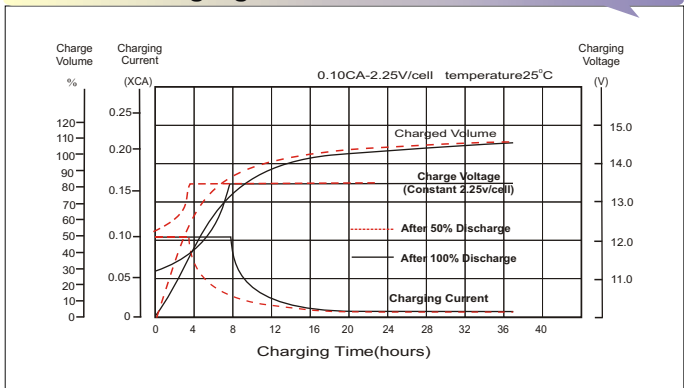


Self Discharge Characteristics

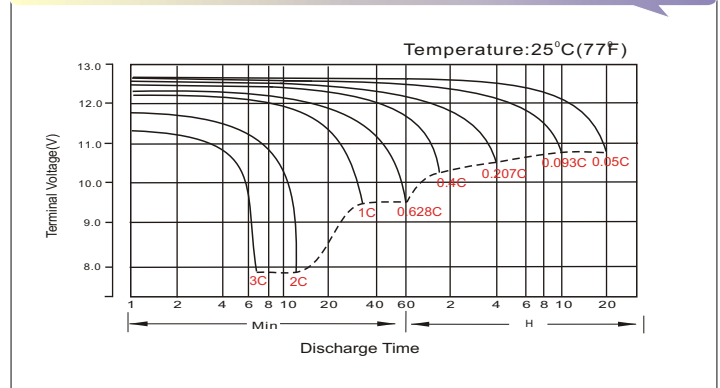


- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
 1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
 2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
 3. Charged for 8-10 hours at limited current 0.05CA.
- C** Avoid this storage period unless regular Top charge. Supplementary charge may often fail to recover the full capacity

Float Charging Characteristics



Discharge Characteristics



Available Capacity Subject to Temperature

| Battery Type | -20°C | -10°C | 0°C | 5°C | 10°C | 20°C | 25°C | 30°C | 40°C | 45°C |
|--------------------|-------|-------|-----|-----|------|------|------|------|------|------|
| AGM Battery 6V&12V | 46% | 66% | 76% | 83% | 90% | 98% | 100% | 103% | 107% | 109% |

Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/cell | 1.80V | 1.75V | 1.60V |
|--------------------------------|------------|-------------------|------------|
| Discharge Current (A) | (A) ≤ 0.2C | 0.2C < (A) < 1.0C | (A) ≥ 1.0C |

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

| | |
|------------------|---|
| Constant Voltage | -0.2Cx2h+2.4~2.45V/Cellx24h, Max. Current 0.3CA |
| Constant Current | 0.1C until the voltage reaching 14.4V, then 0.1Cx4h |

Maintenance & Cautions

| |
|---|
| Float Service: |
| ◆ It is recommended to check battery/Float voltage each month. |
| Equalisation charge: |
| ◆ Equalisation charging is recommended once every 3 to 6 months using. |
| ◆ Discharge 100% rated capacity. |
| ◆ Charge 2.35v/cell constant voltage, maximum 0.3CA 24hrs. |
| Cyclic Service: |
| ◆ Temperature compensation for varying temperatures: |
| - Charge voltage -3mV/Cell/degC from 25degC norm. |
| ◆ The service life of your battery will be affected by: |
| - The number of discharge cycles, depth of discharge, ambient temperature and charging voltage. |