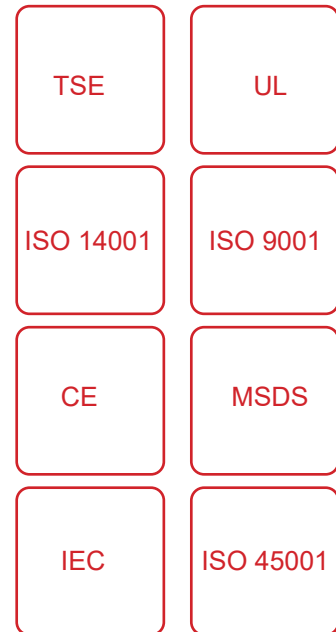


LEAD ACID BATTERY
DS 12-100 (12V-100AH)
Specification

| | | |
|----------------------------------|---|-------------------------------|
| Nominal Voltage | 12V | |
| Nominal Capacity(10HR) | 100.0AH | |
| Dimensions | Length | 330±3mm (12.99 inches) |
| | Width | 173±2mm (6.81 inches) |
| | Container Height | 212±3mm (8.35 inches) |
| | Total Height (with Terminal) | 220±3mm (8.66 inches) |
| Approx Weight | Approx 29.50 kg (±-%5) | Terminal: Stainless |
| Battery Life | 10 years | |
| Container Material | ABS | |
| Rated Capacity | 100.0 AH/10.0A | (10hr, 1.80V/cell, 25°C/77°F) |
| | 88.0 AH/17.6A | (5hr, 1.75V/cell, 25°C/77°F) |
| | 76.2 AH/25.4A | (3hr, 1.75V/cell, 25°C/77°F) |
| | 63.8 AH/63.8A | (1hr, 1.60V/cell, 25°C/77°F) |
| Max. Discharge Current | 1200A (5s) | |
| Internal Resistance | Approx 5 mΩ | |
| Operating Temp. Range | Discharge : -15~50°C (5~122°F) | |
| | Charge : 0~40°C (32~104°F) | |
| | Storage : -20~50°C (4~122°F) | |
| Nominal Operating Temp. Range | 25±3°C (77±5°F) | |
| Cycle Use | Initial Charging Current less than 30.0A. Voltage | |
| | 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C | |
| Standby Use | No limit on Initial Charging Current Voltage | |
| | 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C | |
| Capacity affected by Temperature | 40°C (104°F) | 103% |
| | 25°C (77°F) | 100% |
| | 0°C (32°F) | 86% |
| Self Discharge | DS 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. | |


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

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 173.6 | 146.4 | 130.2 | 115.3 | 87.5 | 65.2 | 52.4 | 31.3 | 23.5 | 19.2 | 16.4 | 14.4 | 11.6 | 9.65 | 5.13 |
| 1.80V/cell | 210.0 | 167.6 | 143.7 | 123.5 | 92.1 | 68.7 | 55.1 | 33.1 | 24.6 | 20.2 | 17.2 | 15.0 | 12.0 | 10.0 | 5.20 |
| 1.75V/cell | 237.0 | 186.3 | 154.0 | 130.8 | 96.5 | 71.3 | 57.1 | 34.4 | 25.4 | 20.7 | 17.6 | 15.3 | 12.2 | 10.1 | 5.29 |
| 1.70V/cell | 261.6 | 199.5 | 165.1 | 138.9 | 101.8 | 74.6 | 59.5 | 35.3 | 26.0 | 21.2 | 17.9 | 15.6 | 12.4 | 10.2 | 5.34 |
| 1.65V/cell | 291.7 | 215.1 | 178.5 | 146.6 | 106.7 | 77.4 | 61.9 | 36.3 | 26.7 | 21.7 | 18.3 | 15.9 | 12.6 | 10.3 | 5.40 |
| 1.60V/cell | 330.8 | 232.5 | 188.5 | 154.3 | 112.3 | 80.5 | 63.8 | 37.5 | 27.6 | 22.2 | 18.6 | 16.2 | 12.7 | 10.5 | 5.45 |

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

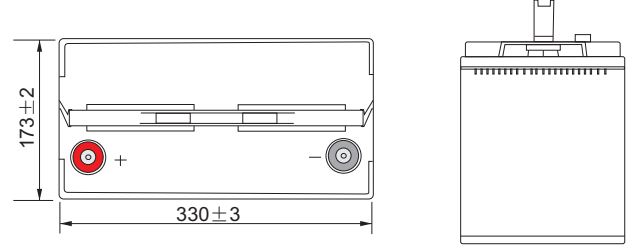
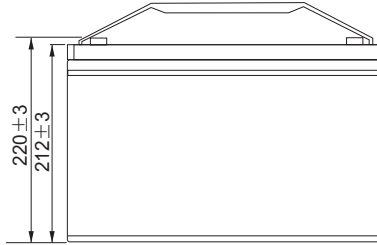
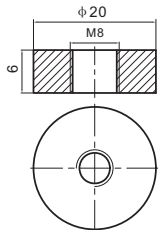
| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 322.5 | 274.9 | 247.1 | 220.5 | 168.5 | 126.4 | 102.2 | 60.8 | 45.7 | 37.5 | 32.2 | 28.2 | 22.9 | 19.1 | 10.2 |
| 1.80V/cell | 386.4 | 312.2 | 271.0 | 235.1 | 176.8 | 132.7 | 107.2 | 63.8 | 47.7 | 39.2 | 33.6 | 29.4 | 23.7 | 19.8 | 10.3 |
| 1.75V/cell | 431.3 | 344.9 | 288.7 | 247.8 | 184.3 | 137.3 | 110.8 | 66.0 | 49.1 | 40.1 | 34.3 | 29.9 | 24.0 | 19.9 | 10.4 |
| 1.70V/cell | 470.9 | 366.5 | 307.7 | 261.8 | 193.6 | 143.0 | 115.0 | 67.6 | 50.1 | 41.0 | 34.8 | 30.4 | 24.3 | 20.1 | 10.5 |
| 1.65V/cell | 519.3 | 391.4 | 330.2 | 274.5 | 201.9 | 147.7 | 119.1 | 69.2 | 51.3 | 41.8 | 35.3 | 30.8 | 24.6 | 20.3 | 10.6 |
| 1.60V/cell | 578.9 | 418.2 | 345.1 | 286.6 | 211.1 | 152.9 | 122.4 | 71.1 | 52.7 | 42.6 | 35.9 | 31.3 | 24.8 | 20.5 | 10.7 |

Specifications subject to change without notice.

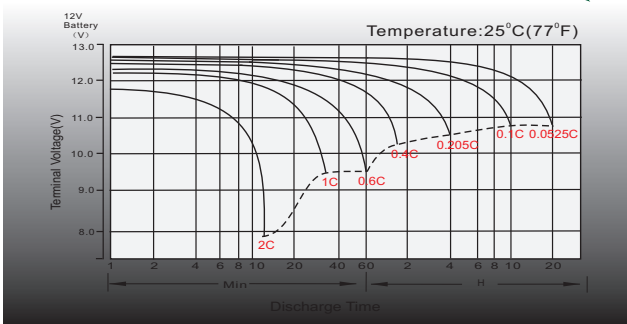
Dimensions

T11 Terminal

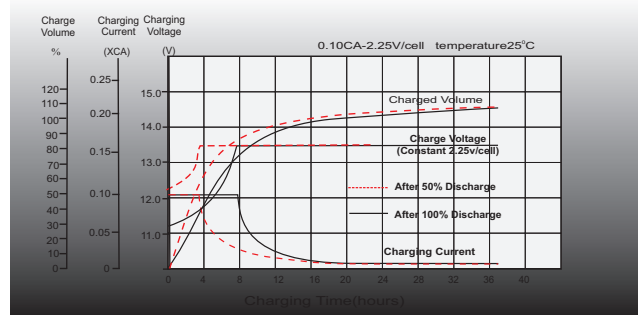
Unit: mm



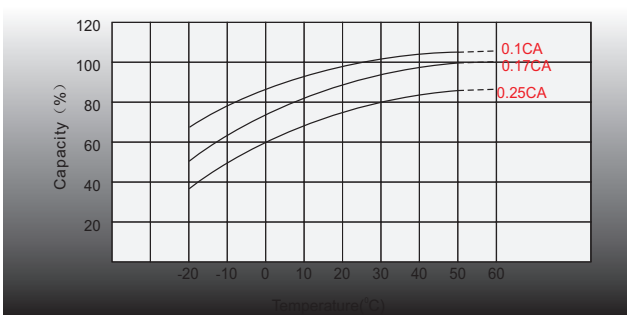
Discharge Characteristics



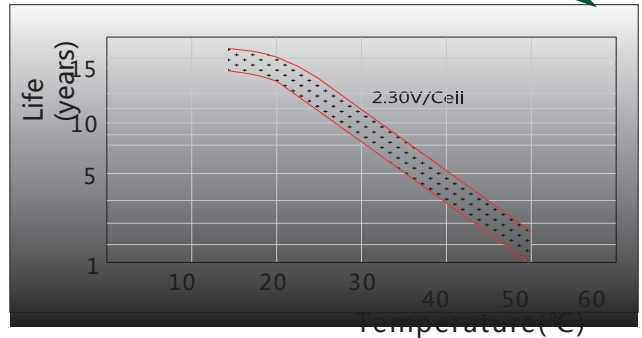
Float Charging Characteristics



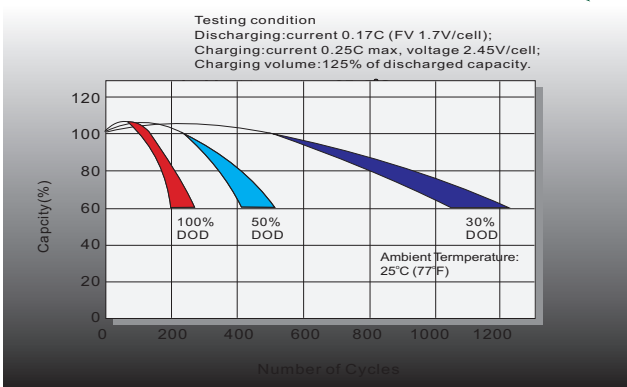
Temperature Effects in Relation to Battery Capacity



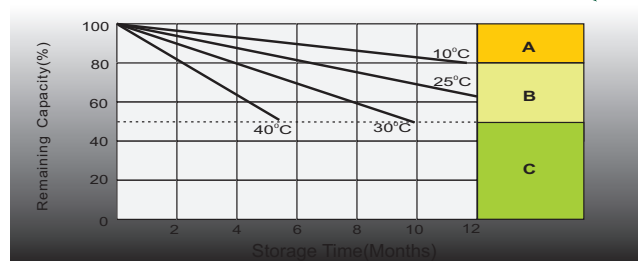
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



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** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.