

# 6SD40D-X 12V 40Ah(20hr)

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

## Battery Construction

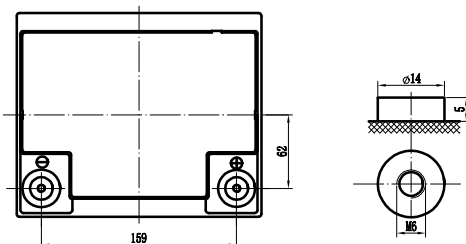
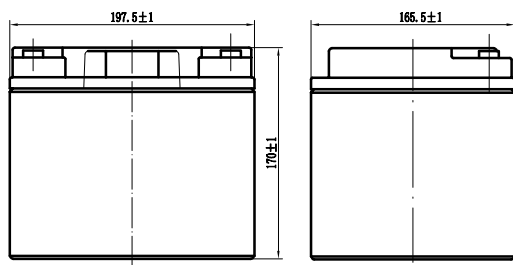
| Component    | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator  | Electrolyte   |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | Rubber       | Copper   | Fiberglass | Sulfuric acid |

## General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

## Dimensions and Weight

|                          |              |
|--------------------------|--------------|
| Length(mm / inch)        | 197.5 / 7.78 |
| Width(mm / inch)         | 165.5 / 6.52 |
| Height(mm / inch)        | 170 / 6.69   |
| Total Height(mm / inch)  | 170 / 6.69   |
| Approx. Weight(Kg / lbs) | 14.7 / 32.4  |



## Performance Characteristics

|  |            |
|--|------------|
| Nominal Voltage                                    | 12V        |
| Number of cell                                     | 6          |
| Design Life  | 10 years   |
| Nominal Capacity 77°F(25°C)                        |            |
| 20 hour rate (2.0A, 10.8V)                         | 40Ah       |
| 10 hour rate (3.88A, 10.8V)                        | 38.8Ah     |
| 5 hour rate (6.97A, 10.5V)                         | 34.85Ah    |
| 1 hour rate (25.5A, 9.6V)                          | 25.5Ah     |
| Internal Resistance                                |            |
| Fully Charged battery 77°F(25°C)                   | 9.5mOhms   |
| Self-Discharge                                     |            |
| 3% of capacity declined per month at 20°C(average) |            |
| Operating Temperature Range                        |            |
| Discharge  | -20~60°C   |
| Charge   | -10~60°C   |
| Storage  | -20~60°C   |
| Max. Discharge Current 77°F(25°C)                  | 400A(5s)   |
| Short Circuit Current                              | 900A       |
| Charge Methods: Constant Voltage Charge 77°F(25°C) |            |
| Cycle use  | 14.4-14.7V |
| Maximum charging current                           | 12A        |
| Temperature compensation                           | -30mV/°C   |
| Standby use  | 13.6-13.8V |
| Temperature compensation                           | -20mV/°C   |

## Discharge Constant Current (Amperes at 77°F25°C)

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h   | 3h   | 5h   | 10h  | 20h  |
|----------------------|------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V                | 125  | 89.4  | 71.2  | 41.0  | 30.7  | 25.5 | 10.6 | 7.32 | 4.14 | 2.08 |
| 1.65V                | 118  | 85.0  | 66.9  | 39.7  | 30.0  | 25.2 | 10.3 | 7.20 | 4.08 | 2.06 |
| 1.70V                | 113  | 80.5  | 64.8  | 38.0  | 29.9  | 24.8 | 10.1 | 7.07 | 4.02 | 2.04 |
| 1.75V                | 105  | 76.1  | 63.0  | 37.1  | 28.7  | 24.5 | 9.85 | 6.97 | 3.95 | 2.02 |
| 1.80V                | 96.2 | 69.1  | 57.0  | 35.4  | 28.3  | 23.4 | 9.62 | 6.77 | 3.88 | 2.00 |

## Discharge Constant Power (Watts at 77°F25°C)

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   |
|----------------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60V                | 239  | 170   | 137   | 90.6  | 68.6  | 54.8 | 30.8 | 22.8 | 14.9 |
| 1.65V                | 222  | 157   | 124   | 80.9  | 62.5  | 50.4 | 28.7 | 21.5 | 14.0 |
| 1.70V                | 205  | 149   | 120   | 78.3  | 59.3  | 49.6 | 27.9 | 20.7 | 13.8 |
| 1.75V                | 189  | 142   | 117   | 75.8  | 58.1  | 48.8 | 27.4 | 20.4 | 13.6 |
| 1.80V                | 177  | 135   | 113   | 73.2  | 56.9  | 47.9 | 26.9 | 20.0 | 13.5 |

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

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