

# 6FM45D-X 12V 41.8Ah(10hr)

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

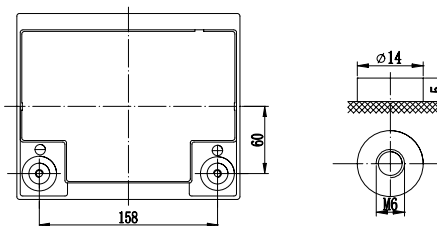
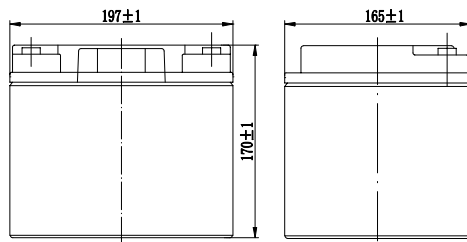
|              |                |                |           |       |              |          |            |               |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Component    | Positive plate | Negative plate | 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 / 7.76  
 Width(mm / inch).....165 / 6.50  
 Height(mm / inch).....170 / 6.69  
 Total Height(mm / inch).....170 / 6.69  
 Approx. Weight(Kg / lbs).....13.8 / 30.4



## Performance Characteristics

Nominal Voltage .....12V  
 Number of cell .....6  
 Design Life .....10 years  
 Nominal Capacity 77°F(25°C)  
 10 hour rate (4.18A, 10.8V) ..... 41.8Ah  
 5 hour rate (7.34A, 10.5V) ..... 36.7Ah  
 1 hour rate (27.6A, 9.6V) ..... 27.6Ah  
 Internal Resistance  
 Fully Charged battery 77°F(25°C) ..... 7.5mOhms  
 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) ..... 450A(5s)  
 Short Circuit Current ..... 1050A  
 Charge Methods: Constant Voltage Charge 77°F(25°C)  
 Cycle use ..... 14.4-14.7V  
 Maximum charging current ..... 13.5A  
 Temperature compensation ..... -30mV/°C  
 Standby use ..... 13.6-13.8V  
 Temperature compensation ..... -20mV/°C

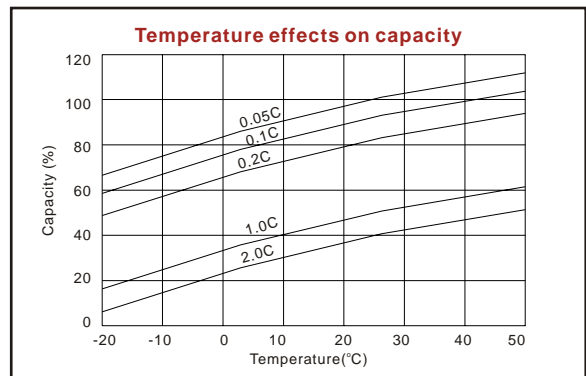
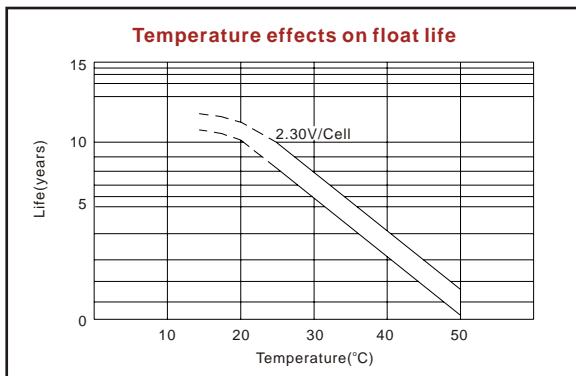
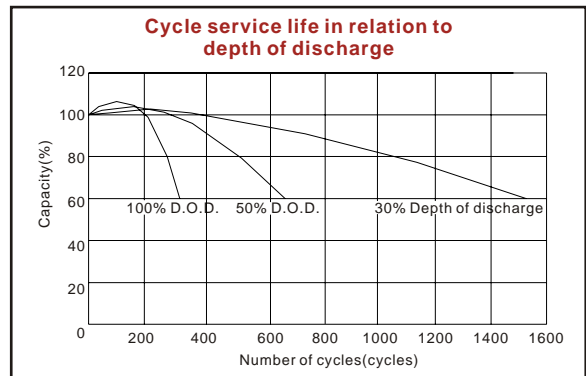
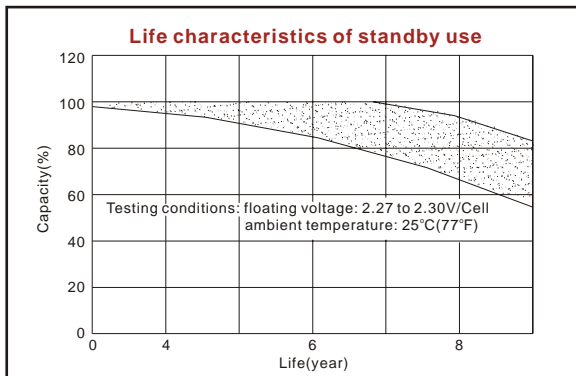
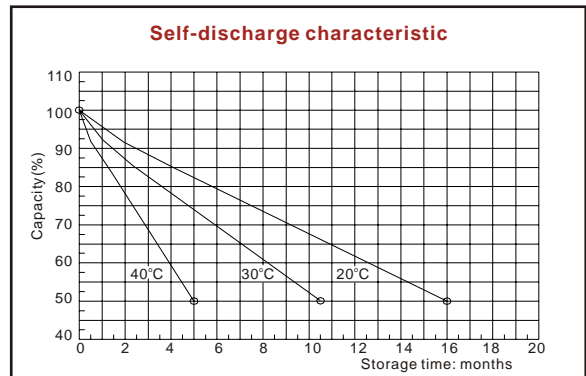
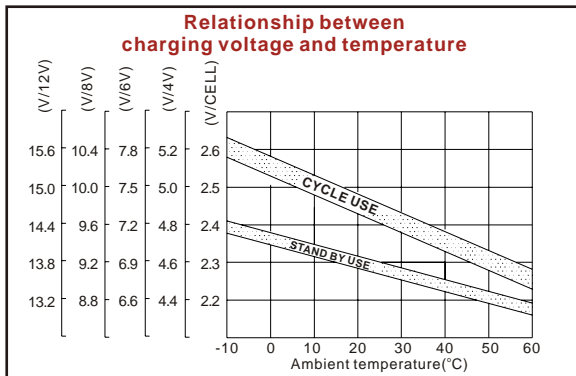
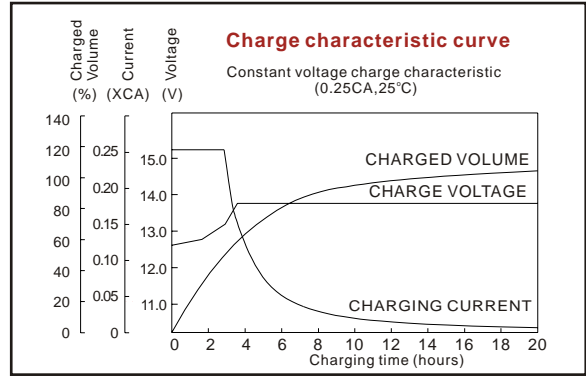
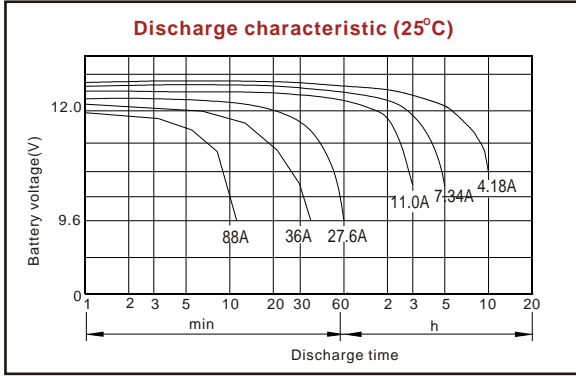
## Discharge Constant Current (Amperes at 77°F25°C)

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h   | 3h   | 5h   | 10h  |
|----------------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60V                | 142  | 96.0  | 75.5  | 44.6  | 34.3  | 27.6 | 11.7 | 7.76 | 4.26 |
| 1.65V                | 129  | 91.2  | 72.1  | 44.4  | 33.7  | 27.2 | 11.5 | 7.62 | 4.24 |
| 1.70V                | 127  | 86.4  | 70.8  | 42.8  | 31.3  | 26.8 | 11.2 | 7.48 | 4.22 |
| 1.75V                | 112  | 81.6  | 66.9  | 38.9  | 30.6  | 26.5 | 11.0 | 7.34 | 4.20 |
| 1.80V                | 108  | 76.8  | 64.0  | 38.0  | 29.9  | 26.1 | 10.8 | 7.26 | 4.18 |

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

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   |
|----------------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60V                | 250  | 180   | 143   | 96.1  | 73.1  | 58.3 | 32.8 | 24.3 | 15.7 |
| 1.65V                | 234  | 167   | 136   | 84.7  | 66.3  | 54.0 | 30.4 | 22.6 | 14.7 |
| 1.70V                | 220  | 159   | 131   | 81.7  | 64.0  | 53.2 | 30.0 | 22.3 | 14.6 |
| 1.75V                | 201  | 150   | 123   | 79.8  | 62.8  | 52.3 | 29.6 | 22.1 | 14.4 |
| 1.80V                | 193  | 147   | 122   | 78.0  | 61.7  | 51.5 | 29.2 | 21.8 | 14.1 |

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



ISO9001:2000

MH25860

G4M19906-9202-E-16

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