

# FMJ Series

## 6FMJ-85 12V85Ah

FMJ series gel batteries utilize advanced battery technology. FMJ has good cyclic performance and high reliability. It is the economical choice for solar photovoltaic street lights, garden and lawn lamps, traffic lights, warning lights and other energy storage systems.



### Benefits

- Long life according to EUROBAT Classification
- High discharge performance
- High gas recombination efficiency
- Maximum charge efficiency
- GEL state electrolyte prevents leakage and layering
- Low resistance PVC or PF micro-porous separator ensure low self-discharge rate
- Easy installation and handling

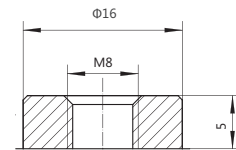
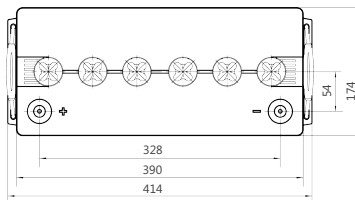
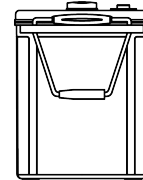
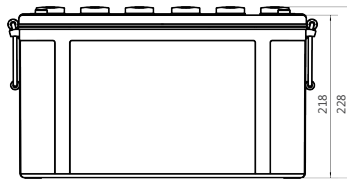
### Applications

- Telecommunications
- Emergency power
- Energy storage systems
- UPS units
- Electrical Power plants and substation

### Standards

- IEC 60896-21/22
- IEC 61427
- DIN 43539-T5
- EUROBAT guide

### Drawing



GFM-24

### Specifications

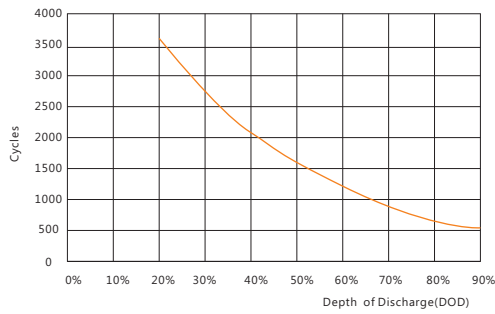
|                                      |  |                     |                       |                    |
|--------------------------------------|--|---------------------|-----------------------|--------------------|
| Battery Model                        | 6FMJ-85  |                     |                       |                    |
| Design Life (years, 25°C)            | 15   |                     |                       |                    |
| Capacity (Ah, 25°C)                  | 10HR (8.5A, 1.80V)                             | 5HR (14.45A, 1.80V) | 3HR (21.25A, 1.80V)   | 1HR(45.76A, 1.80V) |
|                                      | 85   | 72.25               | 63.75                 | 45.76              |
| Dimensions (mm)                      | Length   | Width               | Height                | Total Height       |
|                                      | 414  | 174                 | 218                   | 228                |
| Approx. Weight (kg)                  | 34.0   |                     |                       |                    |
| Reference Internal Resistance (mΩ)   | 5.19 ( fully charged @ 25°C)                   |                     |                       |                    |
| Maximum Discharge Current (A/3 Sec.) | 1012   |                     |                       |                    |
| Self-Discharge (25°C)                | < 2% per month                                 |                     |                       |                    |
| Charge Voltage (V/cell, 25°C)        | Cycle use                                      |                     | Float use             |                    |
|                                      | 2.33 (-3.5mV/°C/cell), max charge current: 17A |                     | 2.22 (-3.5mV/°C/cell) |                    |
| Short Circuit Current (A)            | 2060   |                     |                       |                    |

## Discharge Data

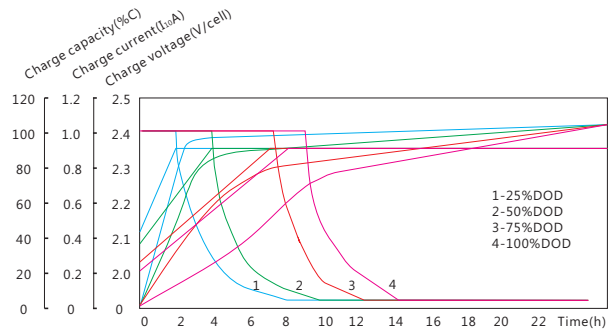
| Constant Current Discharge Data (25°C, A) |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End Voltage (V/cell)                      | min |       |       | h     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|   | 15  | 30    | 45    | 1     | 1.5   | 2     | 3     | 4     | 5     | 6     | 8     | 10    | 20    | 24    | 48    | 100   | 120   | 240   |
| 1.60                                      | 133 | 84.96 | 59.30 | 50.12 | 38.17 | 29.80 | 23.26 | 18.62 | 15.83 | 14.42 | 11.17 | 9.308 | 4.794 | 4.046 | 2.015 | 0.969 | 0.927 | 0.485 |
| 1.65                                      | 129 | 83.26 | 58.11 | 49.11 | 37.41 | 29.21 | 22.80 | 18.24 | 15.50 | 14.14 | 10.95 | 9.121 | 4.692 | 3.970 | 1.972 | 0.961 | 0.918 | 0.476 |
| 1.70                                      | 125 | 81.60 | 56.95 | 48.14 | 36.66 | 28.65 | 22.31 | 17.88 | 15.20 | 13.86 | 10.73 | 8.934 | 4.599 | 3.893 | 1.947 | 0.952 | 0.910 | 0.468 |
| 1.75                                      | 121 | 79.97 | 55.73 | 47.18 | 35.92 | 28.05 | 21.86 | 17.53 | 14.88 | 13.57 | 10.51 | 8.755 | 4.514 | 3.817 | 1.913 | 0.944 | 0.901 | 0.459 |
| 1.80                                      | 115 | 77.56 | 54.14 | 45.76 | 34.85 | 27.21 | 21.25 | 17.00 | 14.45 | 13.18 | 10.20 | 8.500 | 4.420 | 3.740 | 1.887 | 0.935 | 0.893 | 0.451 |

| Constant Power Discharge Data (25°C, W/cell) |     |     |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End Voltage (V/cell)                         | min |     |     | h     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|  | 15  | 30  | 45  | 1     | 1.5   | 2     | 3     | 4     | 5     | 6     | 8     | 10    | 20    | 24    | 48    | 100   | 120   | 240   |
| 1.60   | 231 | 149 | 104 | 88.20 | 67.17 | 52.45 | 41.63 | 33.88 | 28.96 | 26.24 | 20.55 | 17.31 | 9.204 | 7.849 | 3.948 | 1.928 | 1.853 | 0.979 |
| 1.65   | 226 | 147 | 103 | 87.42 | 66.96 | 52.28 | 41.49 | 33.56 | 28.68 | 26.15 | 20.36 | 17.24 | 9.102 | 7.780 | 3.905 | 1.921 | 1.845 | 0.966 |
| 1.70   | 222 | 146 | 102 | 86.64 | 66.36 | 52.13 | 41.06 | 33.07 | 28.42 | 26.05 | 20.27 | 17.15 | 9.013 | 7.747 | 3.874 | 1.914 | 1.837 | 0.954 |
| 1.75   | 219 | 146 | 101 | 85.86 | 66.09 | 51.89 | 40.66 | 32.78 | 28.11 | 25.93 | 20.19 | 17.07 | 8.892 | 7.633 | 3.825 | 1.906 | 1.829 | 0.941 |
| 1.80   | 214 | 143 | 100 | 85.11 | 65.52 | 51.70 | 40.38 | 32.47 | 27.89 | 25.69 | 19.99 | 16.83 | 8.840 | 7.517 | 3.793 | 1.898 | 1.821 | 0.928 |

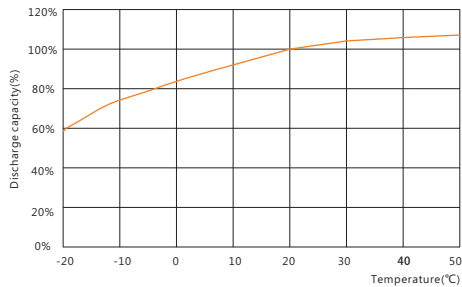
## Performance Curve



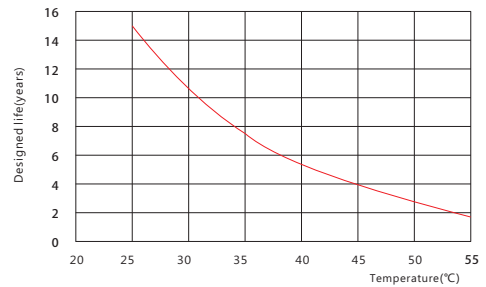
Cycle life vs. discharge depth



Charge vs. discharge depth



Capacity vs. temperature



Design life vs. temperature

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