stored energy solutions for a demanding world

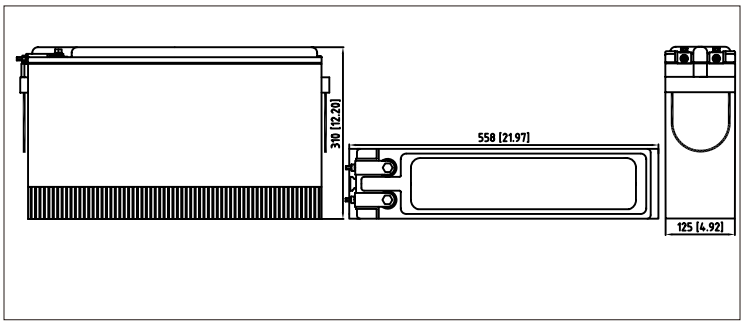
Narada

# Model: 6-GFM-150F

**MP series**

The products are used as standby power for communication, power, military and broadcast and television system. They possess precise ABS heat seal technology between container and lid and patented post seal structure. The design float life is12 years at 25℃(77℉).

## Dimensions-mm[inch]




## Specifications

| Battery Model | 6-GFM-150F |
|---|---|
| Nominal Voltage | 12V |
| Rated Capacity | 150Ah (10hour rate) to 1.80V/cell @25°C(77°F) |
| Typical Weight | 51kg |
| Internal Resistance | Approx 4.46mΩ |
| Operating Temperature Range | Operation (maximum): -40°C to 50°C(-40°F to 122°F)<br>Operation (recommended): 15°C to 25°C(59°F to 77°F)<br>Storage: -20°C to 40°C(-4°F to 104°F) |
| Float Voltage | 2.25V/cell@25°C(77°F) |
| Recommended Maximum Charging Current Limit | 37.5A |
| Equalize and Cycle Serivice | 2.35V~2.40V/cell@25°C(77°F) |
| Self Discharge | The residual capacity is above 90% after 90 days storage(25°C/77°F) |
| Terminal | M6 Female |
| Terminal Hardware Torque | 8 ± 1.0Nm |
| Container Material | ABS (V0 optional) |

## Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)

| End voltage per cell | 5min | 15min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 12h | 20h | 24h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 567 | 305 | 185 | 134 | 108 | 62.1 | 45.0 | 35.3 | 29.8 | 25.6 | 19.7 | 16.2 | 13.6 | 8.54 | 7.13 |
| 1.67V | 533 | 294 | 182 | 133 | 108 | 61.7 | 44.2 | 35.1 | 29.7 | 25.4 | 19.5 | 15.9 | 13.6 | 8.47 | 7.07 |
| 1.70V | 528 | 289 | 179 | 132 | 107 | 61.2 | 44.0 | 34.9 | 29.2 | 25.2 | 19.4 | 15.9 | 13.5 | 8.45 | 7.07 |
| 1.75V | 485 | 280 | 177 | 131 | 105 | 59.7 | 43.4 | 34.5 | 29.0 | 25.0 | 19.2 | 15.9 | 13.5 | 8.42 | 7.06 |
| 1.80V | 435 | 261 | 170 | 126 | 102 | 59.2 | 43.2 | 34.4 | 28.4 | 24.5 | 19.1 | 15.7 | 13.4 | 8.34 | 7.05 |
| 1.83V | 414 | 239 | 167 | 121 | 98 | 58.4 | 41.7 | 32.9 | 27.5 | 23.7 | 18.6 | 15.1 | 12.7 | 8.32 | 6.93 |
| 1.85V | 388 | 232 | 155 | 117 | 95 | 56.3 | 40.6 | 32.4 | 26.8 | 23.1 | 18.1 | 15.0 | 12.6 | 8.16 | 6.88 |

## Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)

| End voltage per cell | 5min | 15min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 12h | 20h | 24h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 948 | 536 | 334 | 251 | 203 | 117 | 85.6 | 67.8 | 57.2 | 49.3 | 38.2 | 31.3 | 26.4 | 16.9 | 14.2 |
| 1.67V | 913 | 526 | 331 | 250 | 202 | 117 | 84.4 | 67.7 | 57.2 | 49.0 | 37.9 | 31.1 | 26.4 | 16.8 | 14.2 |
| 1.70V | 907 | 520 | 331 | 249 | 202 | 116 | 84.4 | 67.4 | 56.4 | 48.6 | 37.7 | 30.9 | 26.1 | 16.8 | 14.1 |
| 1.75V | 858 | 516 | 330 | 249 | 199 | 116 | 83.6 | 67.4 | 56.3 | 48.5 | 37.3 | 30.8 | 26.1 | 16.8 | 14.1 |
| 1.80V | 787 | 488 | 322 | 243 | 198 | 115 | 83.3 | 67.2 | 55.4 | 48.0 | 37.3 | 30.7 | 26.1 | 16.8 | 14.1 |
| 1.83V | 763 | 447 | 318 | 236 | 190 | 114 | 81.4 | 64.7 | 54.2 | 46.6 | 36.9 | 29.9 | 25.3 | 16.7 | 14.0 |
| 1.85V | 723 | 436 | 296 | 226 | 184 | 110 | 79.2 | 63.9 | 52.8 | 45.7 | 35.8 | 29.7 | 25.0 | 16.4 | 13.9 |

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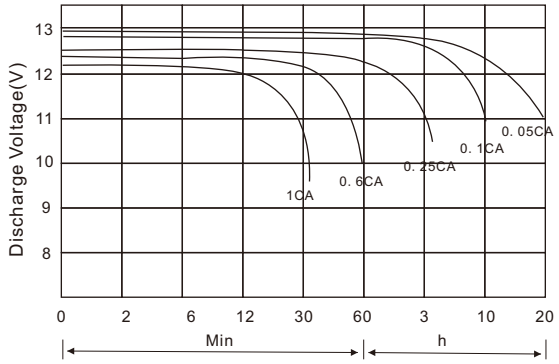
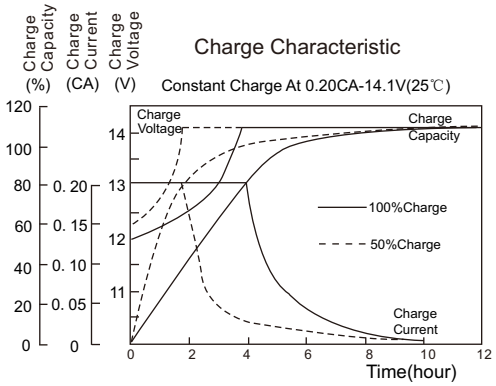
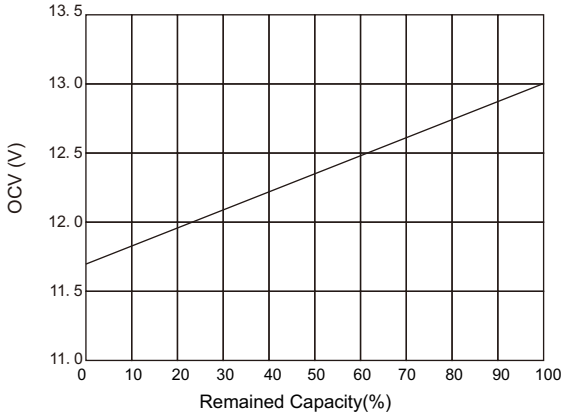
### Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



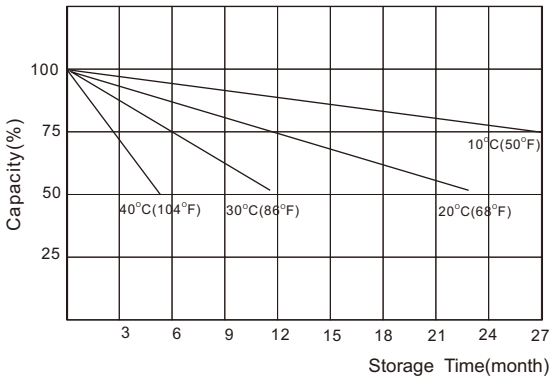

### Battery Voltage Vs. Charge Time




### Relationship of OCV Vs. State of Charge




### Capacity Retention Characteristic




### Charging Procedures

| Application | Charge Voltage (V/Cell) | | | Max. Charge Current |
|---|---|---|---|---|
| | Temperature | Set Point | Allowable Range | |
| Cycle | 25°C | 2.40 | 2.35~2.45 | 0. 25C |
| Standby | 25°C | 2.25 | 2.23~2.27 | |

### Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/Cell | 1.80 | 1.70 | 1.55 | 1.30 |
|---|---|---|---|---|
| Discharge Current (A) | 0.2C≥(A) | 0.2C<(A)<0.5C | 0.5C<(A)<1.0C | (A)>1.0C |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