

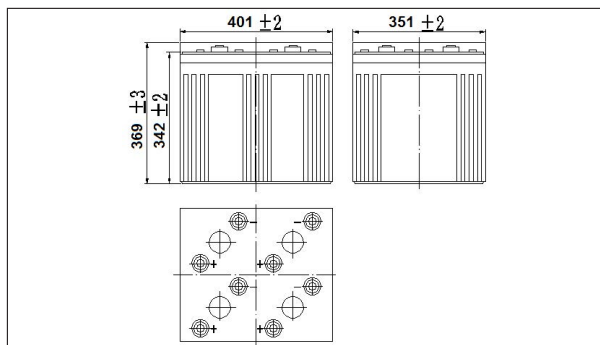
# Valve Regulated GEL Battery

## GPG1500-2 2V 1500AH

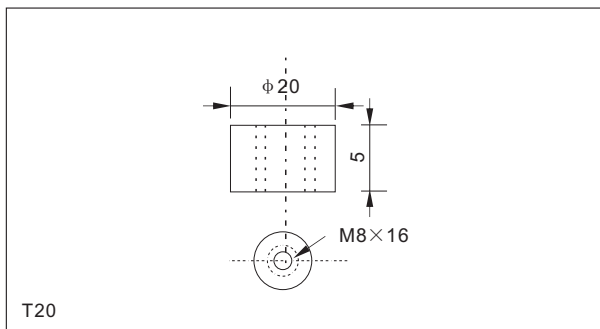
### ● Specifications

|                              |                       |                      |
|------------------------------|-----------------------|----------------------|
| Nominal Voltage              | 2V                    |                      |
| Rated capacity (10hour rate) | 1500Ah                |                      |
| Dimensions                   | Length                | 401 ± 2mm(15.79inch) |
|                              | Width                 | 351 ± 2mm(13.82inch) |
|                              | Height                | 342 ± 2mm(13.46inch) |
|                              | Total Height          | 369 ± 2mm(14.53inch) |
| Approx. Weight               | 96.5kg(212.3lbs) ± 3% |                      |

### ● Outer dimensions (mm)



### ● Terminal Type (mm)



### ● Construction

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

### ● Constant Current Discharge Characteristics Unit:A(25°C,77°F)

| F.V/Time | 30min | 60min | 2h  | 3h  | 4h  | 5h  | 6h  | 8h  | 10h | 20h  | 24h  |
|----------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1.60V    | 1305  | 900   | 540 | 392 | 309 | 257 | 226 | 181 | 153 | 80.2 | 68.9 |
| 1.65V    | 1279  | 882   | 537 | 389 | 307 | 256 | 225 | 179 | 152 | 80.0 | 68.7 |
| 1.70V    | 1240  | 855   | 533 | 387 | 305 | 254 | 224 | 178 | 152 | 79.8 | 68.5 |
| 1.75V    | 1210  | 837   | 525 | 384 | 303 | 252 | 222 | 177 | 151 | 79.3 | 68.1 |
| 1.80V    | 1165  | 810   | 511 | 376 | 294 | 244 | 215 | 172 | 150 | 78.8 | 67.7 |

### ● Constant Power Discharge Characteristics Unit:W(25°C,77°F)

| F.V/Time | 30min | 60min | 2h   | 3h  | 4h  | 5h  | 6h  | 8h  | 10h | 20h | 24h |
|----------|-------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.60V    | 2440  | 1710  | 1043 | 768 | 606 | 506 | 446 | 359 | 304 | 160 | 138 |
| 1.65V    | 2392  | 1676  | 1037 | 763 | 602 | 503 | 443 | 357 | 303 | 160 | 138 |
| 1.70V    | 2318  | 1625  | 1028 | 758 | 598 | 500 | 440 | 355 | 302 | 160 | 138 |
| 1.75V    | 2262  | 1590  | 1012 | 753 | 594 | 496 | 437 | 352 | 301 | 159 | 137 |
| 1.80V    | 2179  | 1539  | 987  | 738 | 576 | 482 | 424 | 342 | 299 | 158 | 136 |

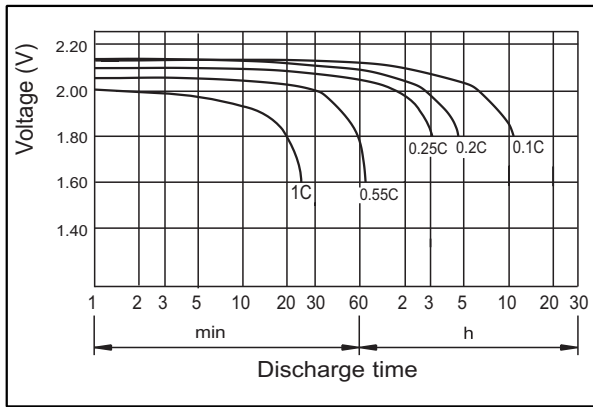
Note: The above characteristics data can be obtained within three charge or discharge cycles.



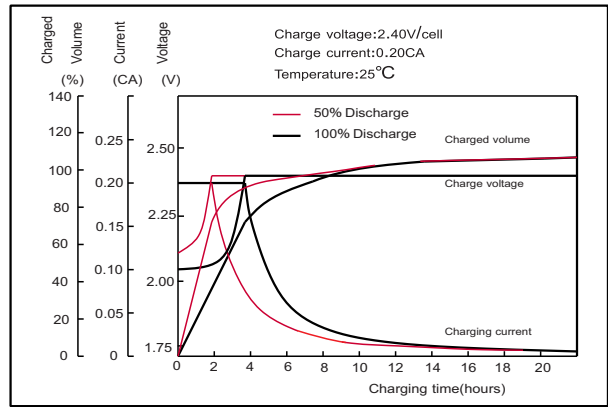
### ● Characteristics

|  |            |  |
|--|------------|--|
| Capacity (25°C)                          | 10HR(1.8V) | 1500Ah   |
|  | 3HR(1.80V) | 1128Ah   |
|  | 1HR(1.75V) | 837Ah  |
| Terminal type                            |            | T20  |
| Internal resistance (Fully charged,25°C) |            | Approx.0.23m Ω                                     |
| Capacity affected by temperature (20HR)  | 40°C       | 102%   |
|  | 25°C       | 100%   |
|  | 0°C        | 85%  |
|  | -15°C      | 65%  |
| Self-discharge (25°C)                    | 3 months   | Remaining Capacity:91%                             |
|  | 6 months   | Remaining Capacity:82%                             |
|  | 12 months  | Remaining Capacity:65%                             |
| Nominal operating temperature            |            | 25°C ± 3°C(77°F ± 5°F)                             |
| Operating temperature range              | Discharge  | -15°C~50°C(5°F~122°F)                              |
|  | Charge     | -10°C~50°C(14°F~122°F)                             |
|  | Storage    | -20°C~50°C(-4°F~122°F)                             |
| Float charging voltage(25°C)             |            | 2.25 to 2.30V<br>Temperature compensation: -3mV/°C |
| Cyclic charging voltage(25°C)            |            | 2.40 to 2.45V<br>Temperature compensation: -5mV/°C |
| Maximum charging current                 |            | 300A   |
| Maximum discharge current                |            | 7500A(5 sec.)                                      |
| Designed floating life(20°C)             |            | 18 years   |

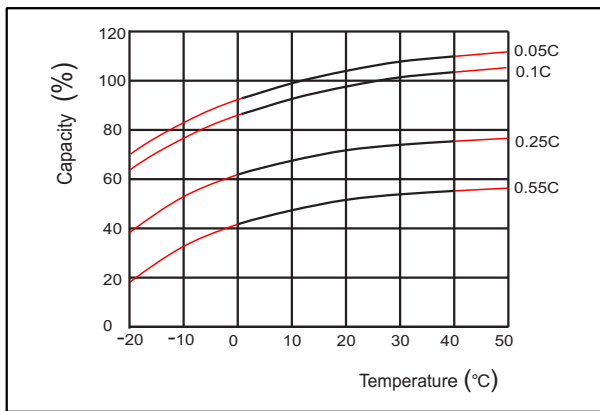
### Discharge characteristics(25°C)



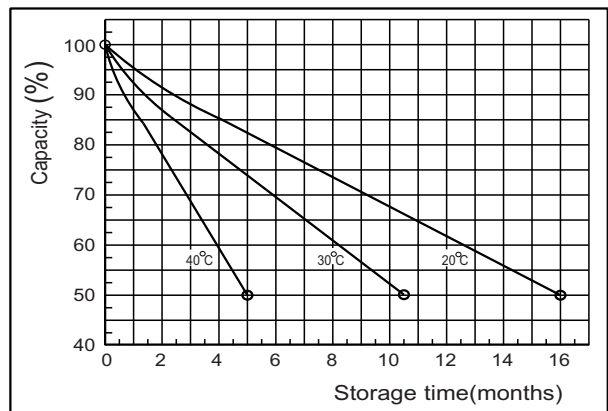
### Charging characteristics



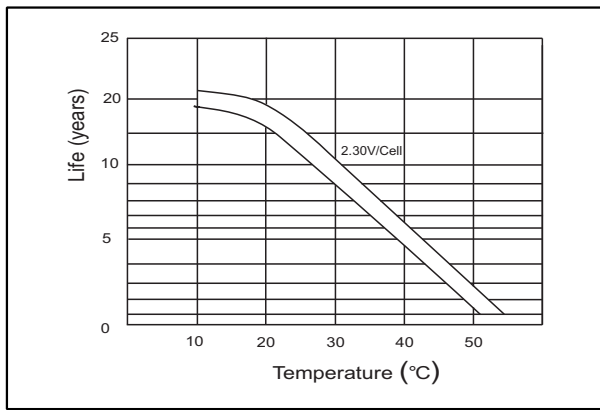
### Effect of Temperature on Capacity



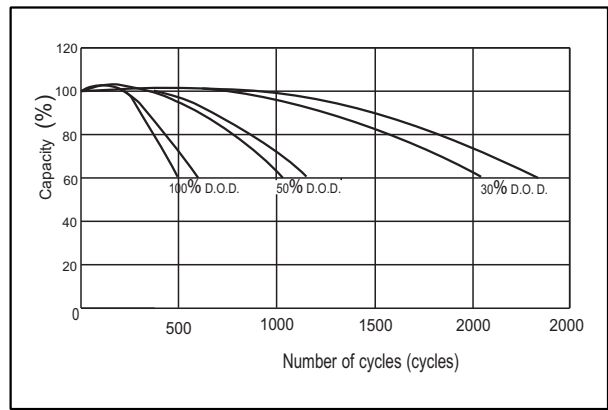
### Self-discharge characteristics



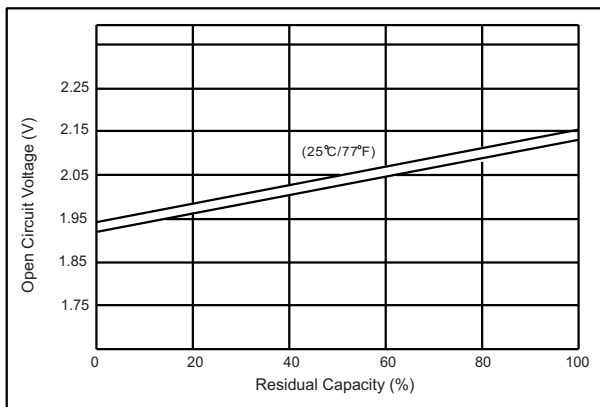
### Temperature effects on float life



### Cycle service life in relation to depth of discharge



### The relationship for OCV and Capacity (25°C)



### The relationship for Charging voltage and Temperature

