

## NPG12-50Ah 12V50Ah

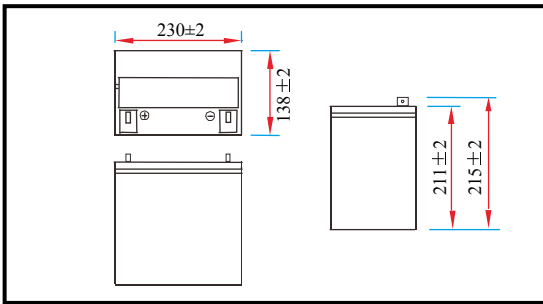
### Valve Regulated Lead Acid Battery



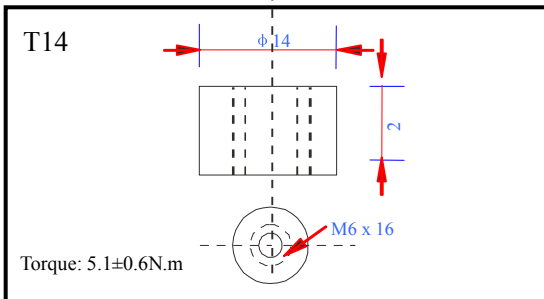
#### Specifications

|                       |                        |                    |
|-----------------------|------------------------|--------------------|
| Nominal voltage       | 12V (6 cells per unit) |                    |
| Rated capacity (10HR) | 50Ah/10.8V             |                    |
| Dimensions            | Length                 | 230±2mm (9.06inch) |
|                       | Width                  | 138±2mm (5.43inch) |
|                       | Height                 | 211±2mm (8.31inch) |
|                       | Total height           | 215±2mm (8.46inch) |
| Approx. weight        | 17.30kg (38.14lbs)±3%  |                    |

#### Outer dimensions (mm)



#### Terminal type (mm)



#### Characteristics

|   |  |  |
|---|--|--|
| Capacity (25°C)                           | 10HR (10.8V)                           | 50Ah   |
|   | 3HR (10.8V)                            | 37.5Ah   |
|   | 1HR (10.5V)                            | 27.5Ah   |
| Terminal type                             |  | T14  |
| Internal resistance (Fully charged, 25°C) |  | Approx. 7mΩ  |
| Capacity affected by temperature (10HR)   | 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)             |  | 13.50 to 13.80V Temperature compensation: -18mV/°C/Block |
| Cyclic charging voltage (25°C)            |  | 14.50 to 14.70V Temperature compensation: -30mV/°C/Block |
| Maximum charging current                  |  | 10A  |
| Maximum discharge current                 |  | 500A (5 sec.)  |
| Design life                               | 12 years for floating (25°C)           |  |
|   | Eurobat (20°C):10-12 years, long life. |  |

#### 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: Ampere/Block (at 25°C, 77°F)

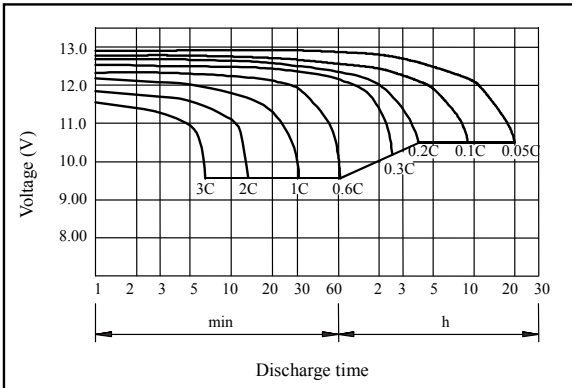
| F.V/Time | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 97.5  | 80.0  | 48.5  | 30.0  | 18.3 | 13.0 | 10.2 | 8.67 | 6.12 | 5.09 | 2.70 |
| 9.90V    | 94.6  | 78.1  | 47.5  | 29.6  | 18.2 | 12.9 | 10.1 | 8.62 | 6.08 | 5.08 | 2.69 |
| 10.2V    | 90.7  | 75.2  | 46.1  | 28.8  | 18.0 | 12.8 | 10.1 | 8.56 | 6.04 | 5.07 | 2.68 |
| 10.5V    | 86.8  | 72.6  | 45.0  | 27.9  | 17.7 | 12.8 | 10.0 | 8.50 | 6.00 | 5.04 | 2.67 |
| 10.8V    | 81.9  | 68.8  | 43.3  | 27.0  | 17.3 | 12.5 | 9.7  | 8.25 | 5.82 | 5.00 | 2.65 |

#### Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

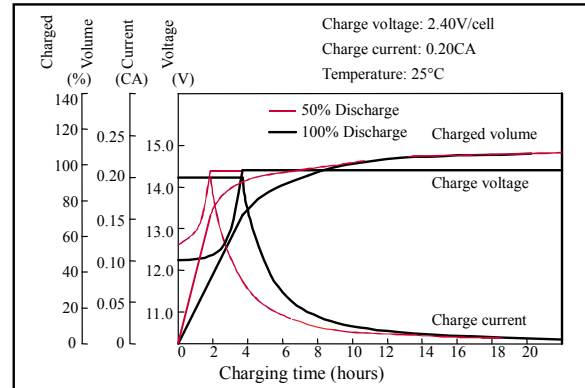
| F.V/Time | 10min | 15min | 30min | 60min | 2h  | 3h  | 4h  | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|
| 9.60V    | 1053  | 878   | 544   | 342   | 212 | 153 | 120 | 102  | 72.7 | 60.8 | 32.4 |
| 9.90V    | 1021  | 857   | 533   | 337   | 210 | 152 | 119 | 102  | 72.3 | 60.7 | 32.3 |
| 10.2V    | 979   | 826   | 517   | 328   | 208 | 151 | 118 | 101  | 71.8 | 60.5 | 32.2 |
| 10.5V    | 937   | 798   | 504   | 318   | 205 | 150 | 118 | 100  | 71.3 | 60.1 | 32.0 |
| 10.8V    | 885   | 755   | 486   | 308   | 200 | 147 | 114 | 97.5 | 69.1 | 59.7 | 31.8 |

Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

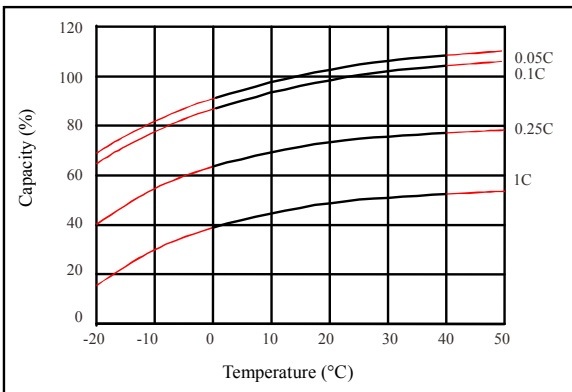
### ● Discharge characteristics (25°C)



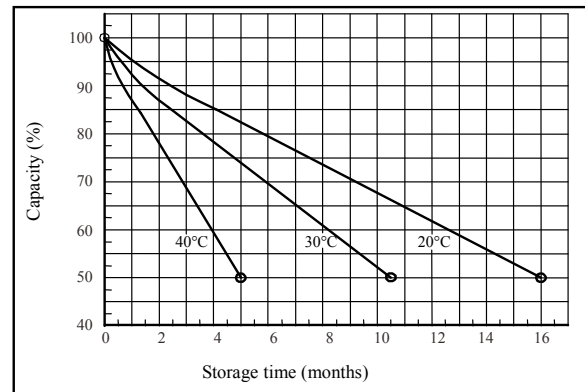
### ● Charging characteristics (25°C)



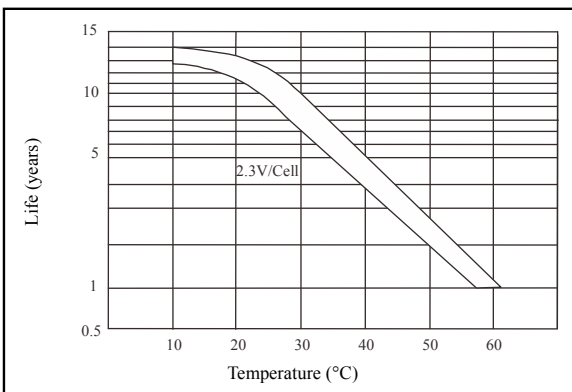
### ● Temperature effects on capacity



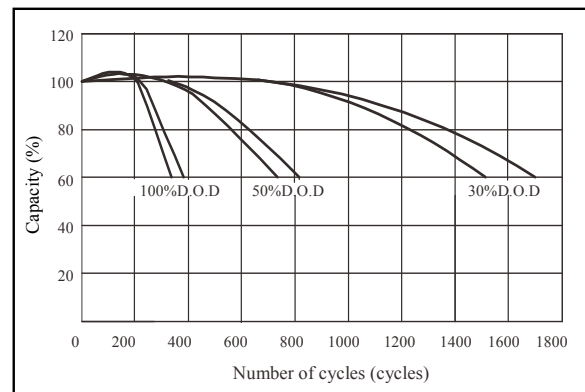
### ● Self-discharge characteristics



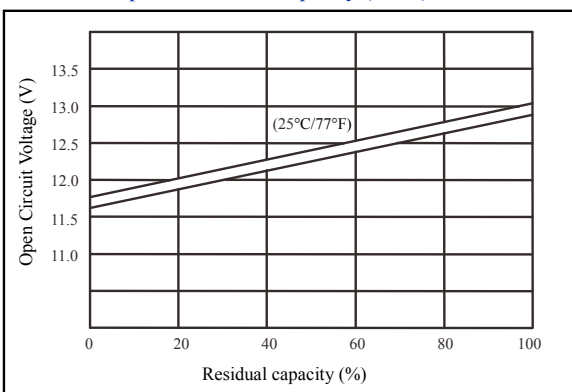
### ● Floating life on temperature



### ● Cycle life on D.O.D (25°C)



### ● Relationship for OCV and capacity (25°C)



### ● Relationship for charging voltage and temperature

