

## HR12-12 12V12AH

### HR SERIES-VRLA Battery



### Applications

HR series is a high power valve-regulated sealed lead-acid battery. The most suitable for high-rate discharge requirements of the UPS, EPS and other emergency backup power equipment and uninterrupted power supply equipment.

- ◆ UPS (High rate)
- ◆ High power backup supply
- ◆ Starting system
- ◆ Electric Power System (EPS)
- ◆ Power tools

|             |              |                |     |
|-------------|--------------|----------------|-----|
| ISO<br>9001 | ISO<br>14001 | OHSAS<br>18001 | TLC |
| CE          | RoHS         |                |     |

### Specification

|                                  |                                                                                                                                                                            |                                |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Nominal Voltage                  | 12V                                                                                                                                                                        |                                |
| Nominal Capacity(20HR)           | 12.0AH (48W@15min-rate to 1.67V per cell @25°C )                                                                                                                           |                                |
| Dimension                        | Length                                                                                                                                                                     | 151±1mm (5.95 inches)          |
|                                  | Width                                                                                                                                                                      | 98±1mm (3.86 inches)           |
|                                  | Container Height                                                                                                                                                           | 95±1mm (3.74 inches)           |
|                                  | Total Height (with Terminal)                                                                                                                                               | 101±1mm (3.98 inches)          |
| Approx Weight                    | Approx 3.35 kg (7.38lbs)                                                                                                                                                   |                                |
| Terminal                         | T1 / T2                                                                                                                                                                    |                                |
| Container Material               | ABS                                                                                                                                                                        |                                |
| Rated Capacity                   | 12.0 AH/0.60A                                                                                                                                                              | (20hr , 1.75V/cell,25°C/77°F)  |
|                                  | 11.2 AH/1.12A                                                                                                                                                              | (10hr, 1.1.75V/cell,25°C/77°F) |
|                                  | 10.2 AH/2.04A                                                                                                                                                              | (5hr, 1.75V/cell,25°C/77°F)    |
|                                  | 9.2 AH/3.06A                                                                                                                                                               | (3hr, 1.75V/cell,25°C/77°F)    |
|                                  | 7.54AH/7.54A                                                                                                                                                               | (1hr, 1.60V/cell,25°C/77°F)    |
| Max. Discharge Current           | 180A (5s)                                                                                                                                                                  |                                |
| Internal Resistance              | Approx 12mΩ                                                                                                                                                                |                                |
| Operating Temp.Range             | Discharge : -15~50°C (5~122°F)                                                                                                                                             |                                |
|                                  | Charge : 0~40°C (32~104°F)                                                                                                                                                 |                                |
|                                  | Storage : -15~40°C (5~104°F)                                                                                                                                               |                                |
| Nominal Operating Temp. Range    | 25±3°C (77±5°F )                                                                                                                                                           |                                |
| Cycle Use                        | Initial Charging Current less than 3.6 A.Voltage                                                                                                                           |                                |
|                                  | 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C                                                                                                                        |                                |
| Standby Use                      | No limit on Initial Charging Current Voltage                                                                                                                               |                                |
|                                  | 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C                                                                                                                        |                                |
| Capacity affected by Temperature | 40°C (104°F)                                                                                                                                                               | 103%                           |
|                                  | 25°C (77°F)                                                                                                                                                                | 100%                           |
|                                  | 0°C (32°F)                                                                                                                                                                 | 86%                            |
| Self Discharge                   | JYC HR series batterys may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |                                |

### Constant Current Discharge (Amperes) at 25 °C (77°F)

| F.V/Time | 3MIN  | 5MIN  | 8MIN  | 10MIN | 15MIN | 20MIN | 30MIN | 60MIN | 90MIN |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 55.16 | 47.96 | 39.88 | 35.18 | 27.20 | 22.01 | 16.12 | 9.399 | 6.850 |
| 1.67V    | 51.04 | 44.38 | 37.41 | 33.01 | 25.78 | 20.53 | 15.37 | 8.957 | 6.521 |
| 1.70V    | 48.92 | 42.53 | 36.09 | 31.82 | 24.99 | 19.75 | 14.93 | 8.700 | 6.325 |
| 1.75V    | 46.20 | 40.17 | 34.29 | 29.88 | 23.81 | 19.21 | 14.51 | 8.557 | 6.183 |
| 1.80V    | 43.45 | 37.79 | 32.48 | 27.92 | 22.62 | 18.64 | 14.06 | 8.387 | 6.034 |
| 1.85V    | 40.55 | 35.26 | 30.54 | 25.89 | 21.33 | 17.99 | 13.54 | 8.186 | 5.853 |

### Constant Power Discharge (Watts) at 25 °C (77°F)

| F.V/Time | 3MIN | 5MIN | 8MIN | 10MIN | 15MIN | 20MIN | 30MIN | 60MIN | 90MIN |
|----------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 100  | 86.9 | 73.3 | 65.0  | 50.6  | 40.5  | 29.7  | 17.4  | 12.7  |
| 1.67V    | 93.3 | 81.2 | 69.4 | 61.6  | 48.4  | 38.1  | 28.6  | 16.7  | 12.2  |
| 1.70V    | 90.5 | 78.7 | 67.8 | 60.1  | 47.5  | 37.1  | 28.1  | 16.4  | 12.0  |
| 1.75V    | 86.6 | 75.3 | 65.2 | 57.1  | 45.8  | 36.5  | 27.7  | 16.4  | 11.9  |
| 1.80V    | 82.6 | 71.8 | 62.7 | 54.2  | 44.2  | 36.0  | 27.2  | 16.3  | 11.8  |
| 1.85V    | 78.6 | 68.4 | 60.1 | 51.2  | 42.5  | 35.4  | 26.7  | 16.2  | 11.6  |

**Note** The above data are average values, and can be obtained with 3 charge/discharge cycles. These are not minimum values.

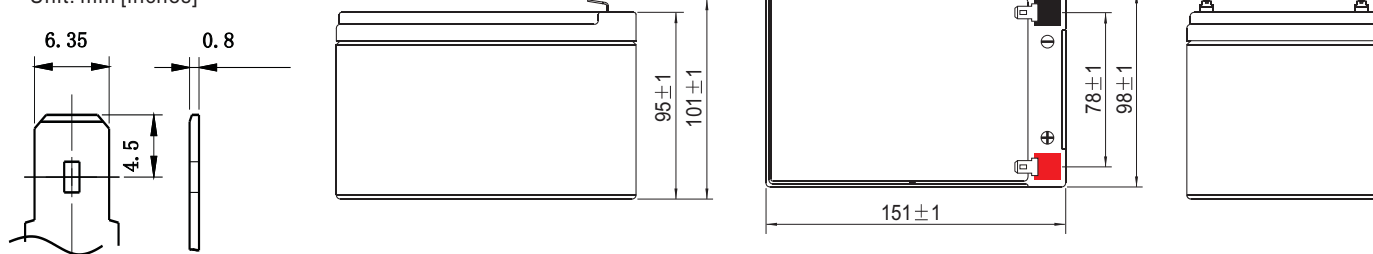
## HR12-12 12V12AH

### HR SERIES-VRLA Battery

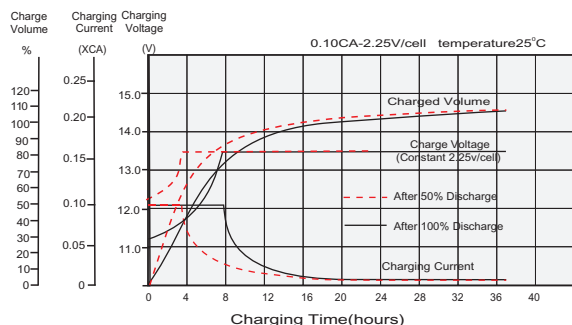
#### Dimensions

##### T2 Terminal

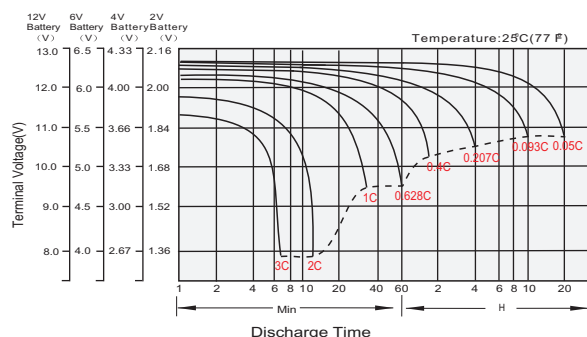
Unit: mm [inches]



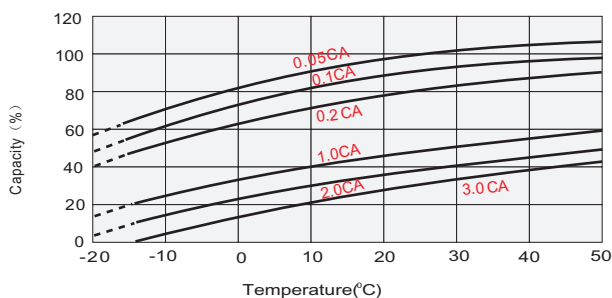
#### Float Charging Characteristics



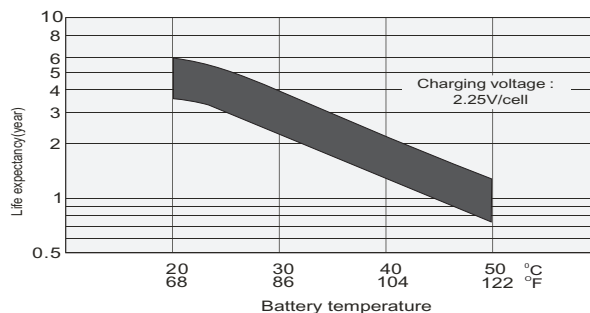
#### Discharge Characteristics



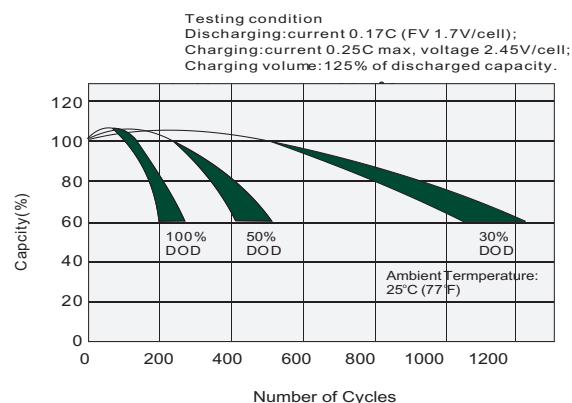
#### Temperature Effects in Relation to Battery Capacity



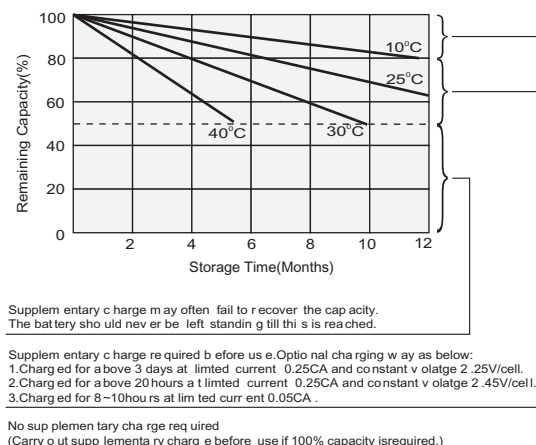
#### Effect of Temperature on Long Term Float Life



#### Cycle Life in Relation to Depth of Discharge



#### Self Discharge Characteristics



#### JYC HR BATTERIES

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