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# GP 1245 ▶ 12V 4.5Ah

GP 1245 is a general purpose battery up to 5 years in standby service or more than 260 cycles at 100% discharge in cycle service. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



**MH14533**



CSB-manufactured **VRLA** (Absorbent Glass Mat type) batteries are UL-recognized components under UL1989.

CSB is also certified by ISO 9001 and ISO 14001.

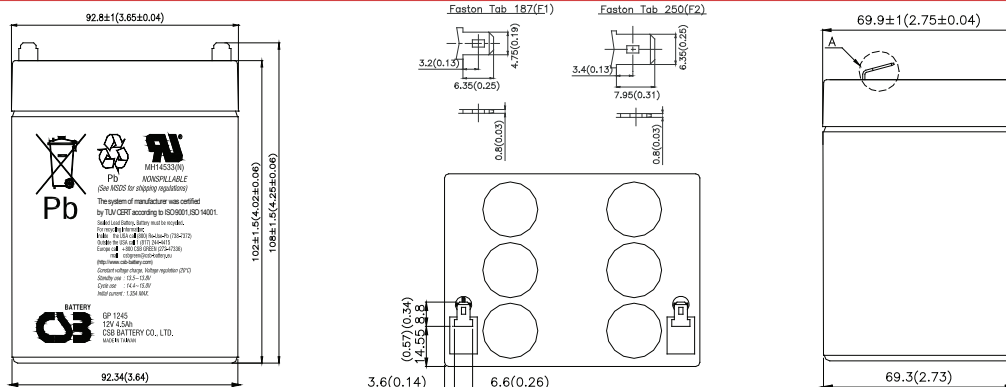
## ► Specification

|                                            |                                                                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cells Per Unit                             | 6                                                                                                                                                                   |
| Voltage Per Unit                           | 12                                                                                                                                                                  |
| Capacity                                   | 4.5Ah @ 20hr-rate to 1.75V per cell @25°C (77°F)                                                                                                                    |
| Weight                                     | Approx. 1.66 kg(3.66 lbs)                                                                                                                                           |
| Maximum Discharge Current                  | 60A/90A(5sec)                                                                                                                                                       |
| Internal Resistance                        | Approx. 40.5 mΩ                                                                                                                                                     |
| Operating Temperature Range                | Discharge: -15°C~50°C ( 5°F~122°F)<br>Charge: -15°C~40°C ( 5°F~104°F)<br>Storage: -15°C~40°C ( 5°F~104°F)                                                           |
| Nominal Operating Temperature Range        | 25°C±3°C (77°F±5°F)                                                                                                                                                 |
| Float Charging Voltage                     | 13.5 to 13.8 VDC/unit Average at 25°C (77°F)                                                                                                                        |
| Recommended Maximum Charging Current Limit | 1.35A                                                                                                                                                               |
| Equalization and Cycle Service             | 14.4 to 15.0 VDC/unit Average at 25°C (77°F)                                                                                                                        |
| Self Discharge                             | CSB Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter. |
| Terminal                                   | F1/F2-Faston Tab187/250                                                                                                                                             |
| Container Material                         | ABS(UL 94-HB) & Flammability resistance of (UL 94-V0) can be available upon request.                                                                                |

## ► Dimensions :

Unit: mm (inch)

| Overall Height (H)  | Container height (h) | Length (L)         | Width (W)          |
|---------------------|----------------------|--------------------|--------------------|
| 108±1.5 (4.25±0.06) | 102±1.5 (4.02±0.06)  | 92.8±1 (3.65±0.04) | 69.9±1 (2.75±0.04) |



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

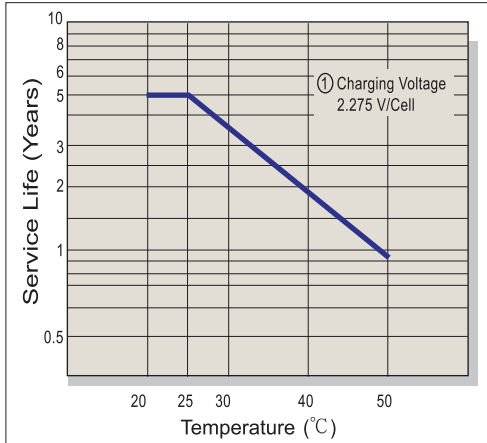
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| 1.60V    | 18.7 | 12.3  | 9.08  | 5.37  | 3.11  | 2.26  | 1.80 | 1.26 | 0.81 | 0.53 | 0.43 | 0.23 |
| 1.67V    | 17.6 | 11.8  | 8.88  | 5.31  | 3.09  | 2.25  | 1.79 | 1.24 | 0.80 | 0.53 | 0.43 | 0.23 |
| 1.70V    | 17.0 | 11.6  | 8.79  | 5.28  | 3.08  | 2.23  | 1.78 | 1.24 | 0.80 | 0.53 | 0.43 | 0.23 |
| 1.75V    | 16.1 | 11.2  | 8.62  | 5.21  | 3.06  | 2.22  | 1.77 | 1.23 | 0.80 | 0.53 | 0.43 | 0.22 |
| 1.80V    | 15.0 | 10.7  | 8.42  | 5.13  | 3.03  | 2.21  | 1.76 | 1.22 | 0.80 | 0.52 | 0.43 | 0.22 |
| 1.85V    | 13.8 | 10.3  | 8.21  | 5.04  | 3.00  | 2.18  | 1.74 | 1.21 | 0.79 | 0.52 | 0.42 | 0.22 |

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

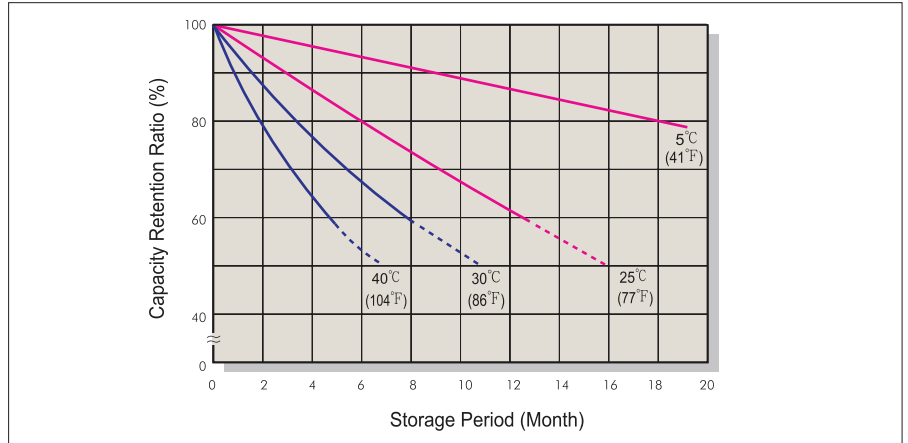
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| 1.60V    | 221  | 145   | 110   | 65.9  | 38.6  | 27.9  | 22.2 | 16.1 | 10.7 | 7.09 | 5.79 | 3.19 |
| 1.67V    | 206  | 139   | 107   | 65.4  | 38.4  | 27.7  | 22.0 | 16.0 | 10.6 | 7.08 | 5.78 | 3.17 |
| 1.70V    | 199  | 137   | 105   | 64.9  | 38.1  | 27.6  | 21.9 | 15.9 | 10.5 | 7.04 | 5.76 | 3.16 |
| 1.75V    | 188  | 133   | 102   | 64.7  | 38.0  | 27.5  | 21.8 | 15.8 | 10.4 | 7.02 | 5.74 | 3.16 |
| 1.80V    | 177  | 128   | 100   | 63.6  | 37.7  | 27.2  | 21.5 | 15.7 | 10.3 | 6.96 | 5.71 | 3.13 |
| 1.85V    | 165  | 122   | 96.6  | 60.9  | 36.7  | 26.7  | 21.3 | 15.5 | 10.2 | 6.89 | 5.63 | 3.09 |

Ratings presented herein are subject to revision without notice. Please refer to [www.csb-battery.com](http://www.csb-battery.com) to confirm the latest version.

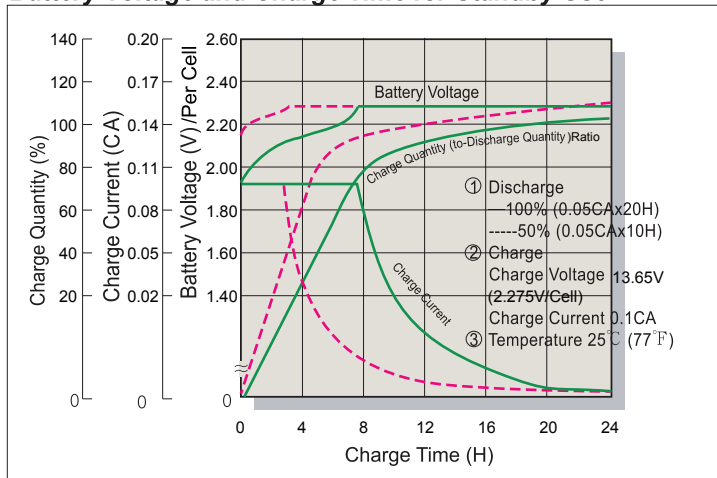
## Trickle (or Float) Service Life



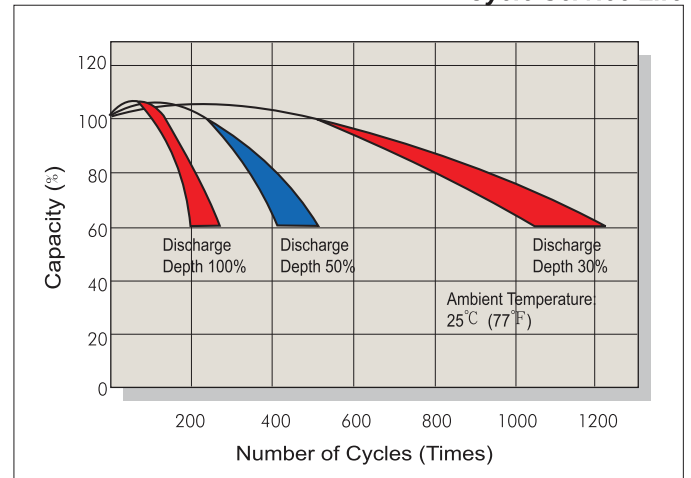
## Capacity Retention Characteristic



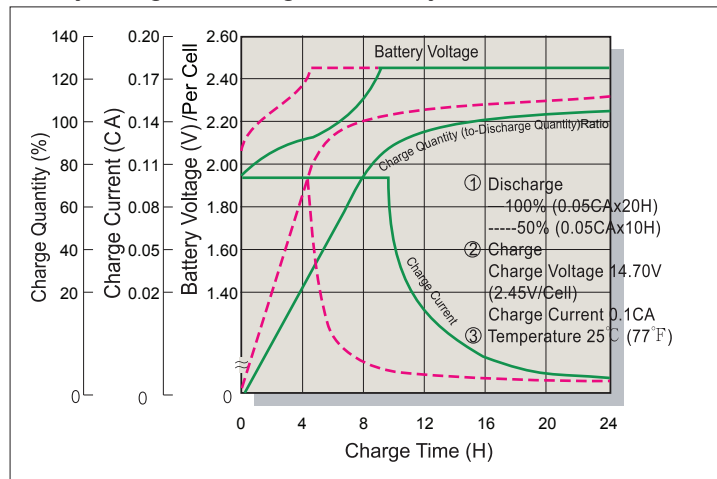
## Battery Voltage and Charge Time for Standby Use



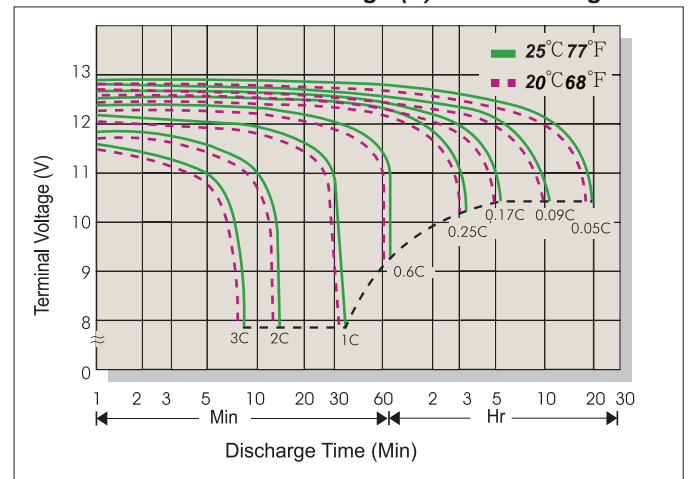
## Cycle Service Life



## Battery Voltage and Charge Time for Cycle Use



## Terminal Voltage (V) and Discharge Time



## Charging Procedures

| Application | Charge Voltage(V/Cell) |           |                 | Max.Charge Current |
|-------------|------------------------|-----------|-----------------|--------------------|
|             | Temperature            | Set Point | Allowable Range |                    |
| Cycle Use   | 25°C(77°F)             | 2.45      | 2.40~2.50       | 0.3C               |
| Standby     | 25°C(77°F)             | 2.275     | 2.25~2.30       |                    |

## Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/Cell | 1.75     | 1.70          | 1.60          | 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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