

EXP645 (6V 4.5Ah)

Specification

| | |
|------------------------------------|--|
| Cells Per Unit | 3 |
| Voltage Per Unit | 6 |
| Nominal Capacity | 4.5Ah@20hour-rate to 1.75V per cell @77°F |
| Weight | Approx. 1.43 lbs (Tolerance±5.0%) |
| Internal Resistance | Approx. 27 m Ω |
| Terminal | F1 |
| Max. Discharge Current | 45A (5 sec) |
| Short Circuit Current | 234A |
| Design Life | 6~8 years (Float charging) |
| Max. Charging Current | 1.35 A |
| Reference Capacity | C3 3.48AH C5 3.93AH C10 4.21AH C20 4.50AH |
| Standby Use Voltage | 6.85V~6.94V @ 77°F Temperature Compensation: -3mV/°C/Cell |
| Cycle Use Voltage | 7.30V~7.40V @ 77°F Temperature Compensation: -4mV/°C/Cell |
| Operating Temperature Range | Discharge: -68°F~140°F Charge: 32°F~122°F Storage: -68°F~140°F |
| Normal Operating Temperature Range | 77°F±41°F |
| Self Discharge | EXP Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 77°F, after which recharging is recommended. The monthly self-discharge ratio is less than 3% at 77°F. Please ensure that you charge the batteries before using them. |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



The EXP series is a general-purpose battery with a designed life of 6-8 years in float service. It meets the standards of IEC, JIS, BS, GB/T, and YD/T. With advanced AGM valve-regulated technology and high-purity raw materials, the EXP series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPs, medical equipment, emergency lighting, and security system applications.



ISO 9001



ISO 14001



OHSAS 18001

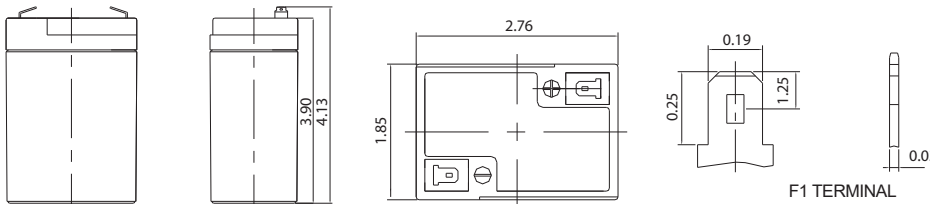


MH 61046



G4M20206-0910-E-16

Dimensions



| | |
|--------------|---------------|
| Length | 2.76 ± 0.06in |
| Width | 1.85 ± 0.06in |
| Height | 3.90 ± 0.06in |
| Total Height | 4.13 ± 0.06in |
| Terminal | F1 |

Unit: inch

Constant Power Discharge (CP, Unit: A) at 25°C (77°F)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 17.07 | 12.07 | 8.723 | 5.010 | 2.749 | 1.688 | 1.269 | 1.025 | 0.849 | 0.546 | 0.444 | 0.234 |
| 1.65V | 15.88 | 11.40 | 8.339 | 4.810 | 2.655 | 1.634 | 1.230 | 0.997 | 0.827 | 0.540 | 0.438 | 0.231 |
| 1.70V | 14.33 | 10.50 | 7.811 | 4.597 | 2.569 | 1.580 | 1.196 | 0.970 | 0.805 | 0.532 | 0.432 | 0.228 |
| 1.75V | 12.83 | 9.609 | 7.268 | 4.394 | 2.475 | 1.525 | 1.161 | 0.945 | 0.785 | 0.525 | 0.426 | 0.225 |
| 1.80V | 11.27 | 8.698 | 6.711 | 4.200 | 2.380 | 1.471 | 1.125 | 0.918 | 0.765 | 0.516 | 0.421 | 0.223 |
| 1.85V | 8.945 | 7.108 | 5.569 | 3.617 | 2.135 | 1.347 | 1.040 | 0.853 | 0.713 | 0.484 | 0.396 | 0.212 |

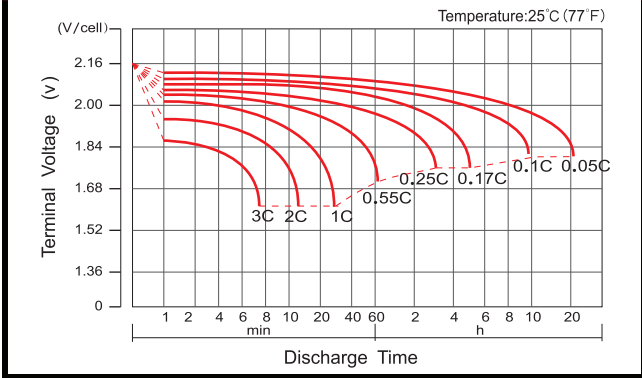
Constant Power Discharge (CP, Unit: W) at 25°C (77°F)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 28.30 | 20.51 | 15.25 | 9.100 | 5.167 | 3.199 | 2.424 | 1.967 | 1.636 | 1.067 | 0.872 | 0.461 |
| 1.65V | 26.62 | 19.76 | 14.79 | 8.828 | 5.018 | 3.112 | 2.359 | 1.921 | 1.600 | 1.057 | 0.863 | 0.455 |
| 1.70V | 24.57 | 18.52 | 14.06 | 8.522 | 4.885 | 3.026 | 2.305 | 1.876 | 1.564 | 1.043 | 0.851 | 0.450 |
| 1.75V | 22.50 | 17.26 | 13.28 | 8.229 | 4.735 | 2.934 | 2.246 | 1.835 | 1.529 | 1.031 | 0.841 | 0.445 |
| 1.80V | 20.18 | 15.90 | 12.43 | 7.945 | 4.580 | 2.843 | 2.185 | 1.788 | 1.495 | 1.016 | 0.831 | 0.441 |
| 1.85V | 16.35 | 13.22 | 10.46 | 6.911 | 4.133 | 2.619 | 2.029 | 1.668 | 1.399 | 0.956 | 0.783 | 0.419 |

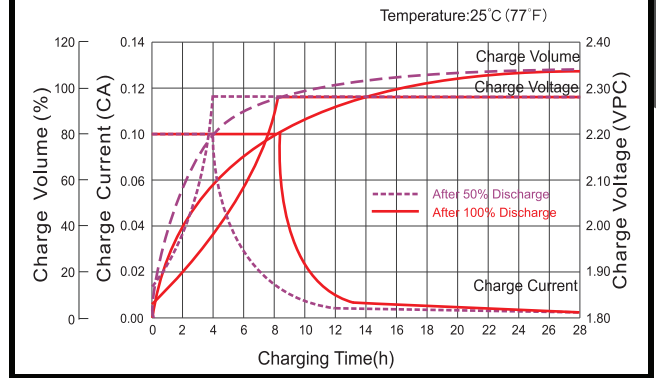
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C20 should reach 95% after the first cycle and 100% after the third cycle.

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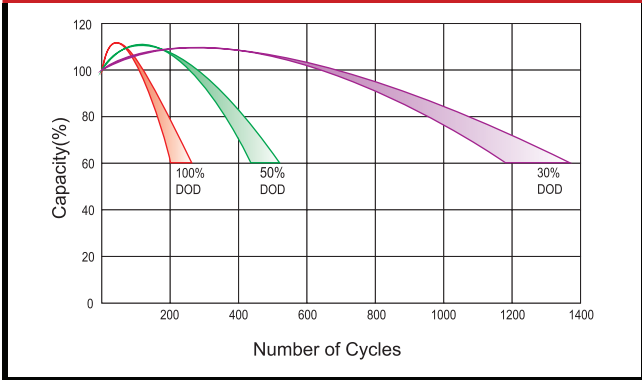
Discharge Characteristics Curve



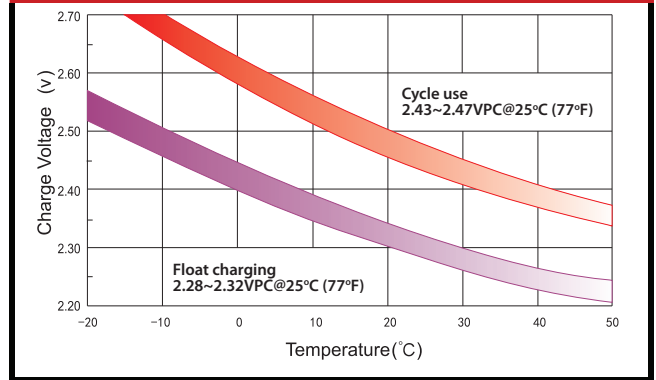
Charge Characteristic Curve For Standby Use



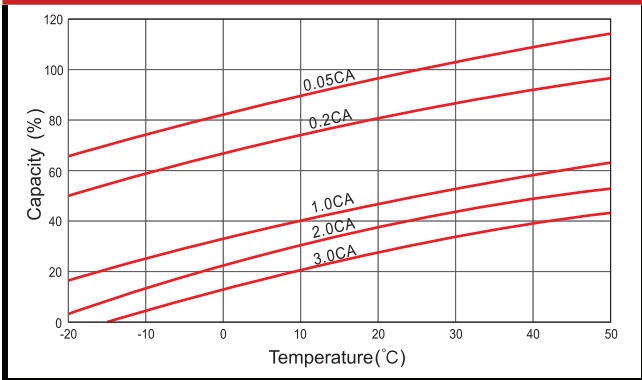
Cycle Life In Relation To Depth Of Discharge



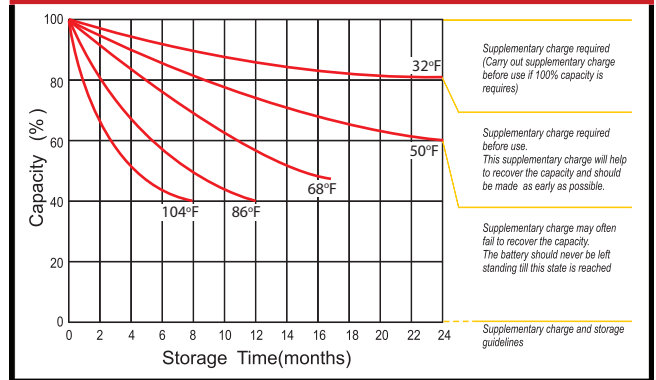
Relationship Between Charging Voltage And Temperature



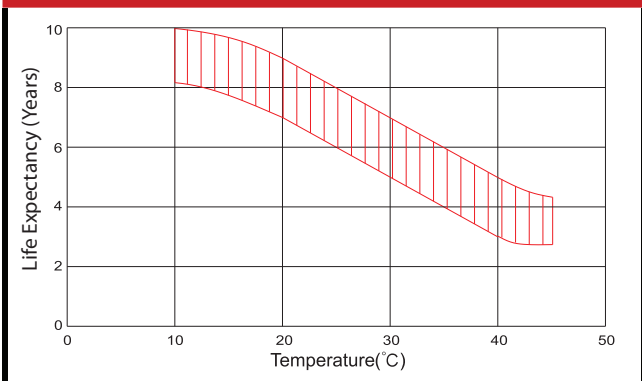
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use

