

# DC50-12B DATA SHEET



## DC50-12B

**50AH@20HR**  
**12-Volt**

**DEEP CYCLE**

**Maintenance-Free**  
**Sealed AGM Battery**

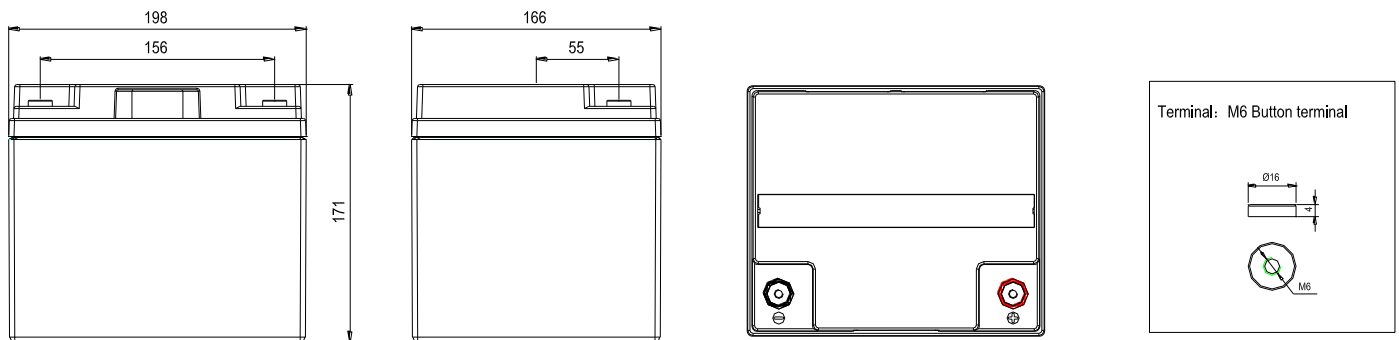
| Nominal Specifications    |                          |                |           |
|---------------------------|--------------------------|----------------|-----------|
| Battery Model             | DC50-12B                 | Rated Capacity | 50AH/20HR |
| Mechanical Specifications |                          |                |           |
| Group Size                | U1L                      |                |           |
| Overall Height (H)        | 171±2mm                  | 6.73"          |           |
| Container Height (h)      | 171±2mm                  | 6.73"          |           |
| Length                    | 198±2mm                  | 7.80"          |           |
| Width                     | 166±2mm                  | 6.54"          |           |
| Weight                    | Approx.14.9kg            | 32.85lbs.      |           |
| Terminal Type             | M6- Button Terminal      |                |           |
| Terminal Torque           | 5.6-7.9 N.m              |                |           |
| Container Material        | ABS: Standard (UL 94-HB) |                |           |

| Electrical Specifications |            |
|---------------------------|------------|
| C100                      | 56AH       |
| C20                       | 50AH       |
| C10                       | 45AH       |
| C5                        | 40AH       |
| CCA                       | 350A       |
| CA or MCA                 | 400A       |
| HPCA                      | 470A       |
| Max. Discharge Current    | 750A (5s)  |
| Internal Resistance       | 5.0mΩ      |
| Reserve Capacity          |            |
| Reserve @25 AMPS          | 70 Minutes |
| Reserve @75 AMPS          | /          |

| Temperature Range Specifications        |   |
|---|---|
| Operating Temperature Range             | Discharge : -15°C ~+ 50°C (5°F ~122°F)  |
|   | Charge: -15°C ~ +40°C (5°F ~104°F)  |
|   | Storage: -15°C ~ +40°C (5°F ~104°F)   |
| Recommended Operating Temperature Range | +74°F (23°C) to +80°F (27°C)  |
| Self-Discharge                          | Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F); Fully recharging is required before usage, For higher temperatures the time interval will be shorter. |

| Charge Voltages                                 |                                |              |
|---|--------------------------------|--------------|
| Float Charging Voltage                          | 13.5 to 13.8 VDC/unit@ (25°C)  |              |
| Equalization and Cycle Service Charging Voltage | 14.3 to 14.5 VDC/unit @ (25°C) |              |
| Maximum Charge Current(A)                       | 12.5A                          |              |
| Charging Temperature Compensation               | Cycle use                      | -4mV/cell/°C |
|   | Float use                      | -3mV/cell/°C |

## BATTERY & TERMINAL DIMENSIONS (All units shown in mm)



Battery bank spacing required 12.5mm (1/2"inch) minimum

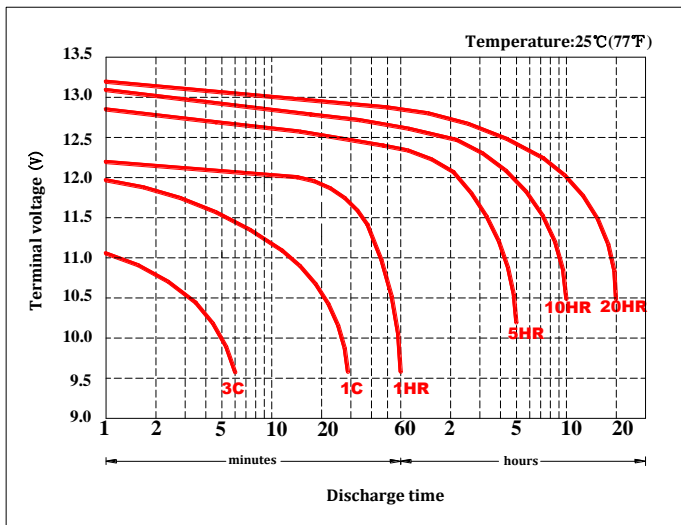
| Constant Current Discharge Rating Amperes @ 77°F (25°C) |     |     |     |    |      |      |     |     |     |      |      |
|---|-----|-----|-----|----|------|------|-----|-----|-----|------|------|
| Cut off voltage V/cell                                  | 15M | 30M | 45M | 1H | 2H   | 3H   | 5H  | 8H  | 10H | 12H  | 20H  |
| 1.75V   | 78  | 47  | 37  | 27 | 17.3 | 11.4 | 8.1 | 5.3 | 4.5 | 3.88 | 2.50 |

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

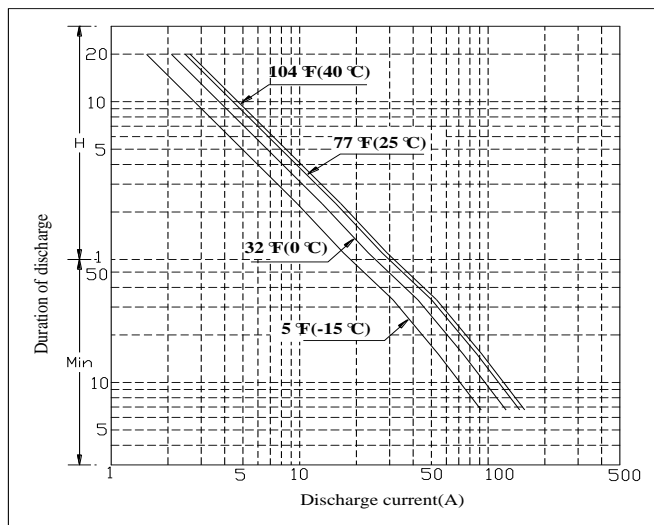


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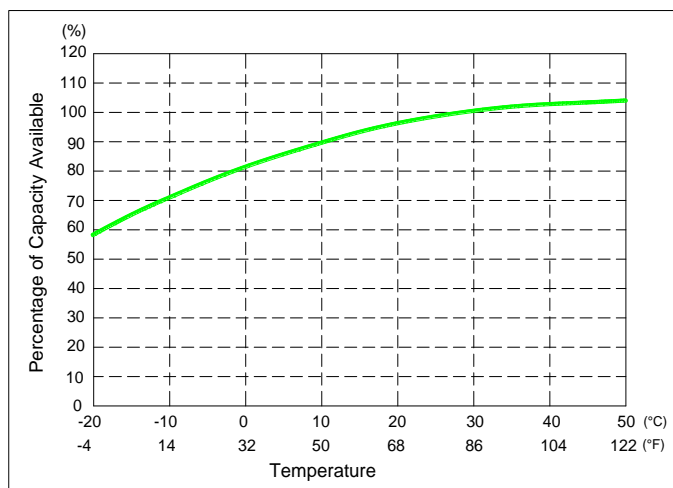
## Terminal Voltage(V) and Discharge Time



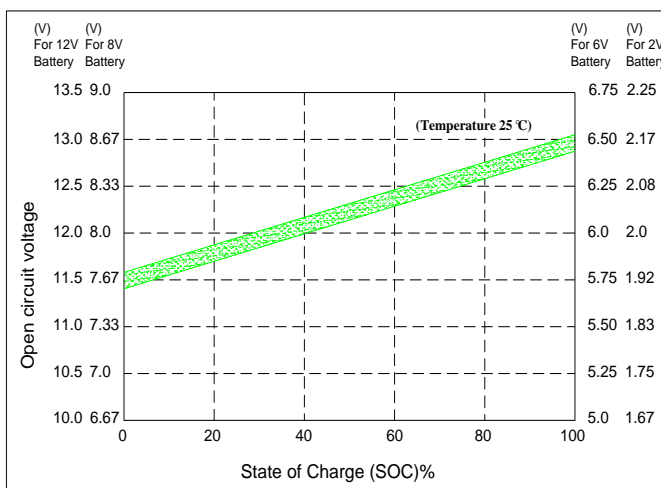
## Duration of discharge vs. Discharge current



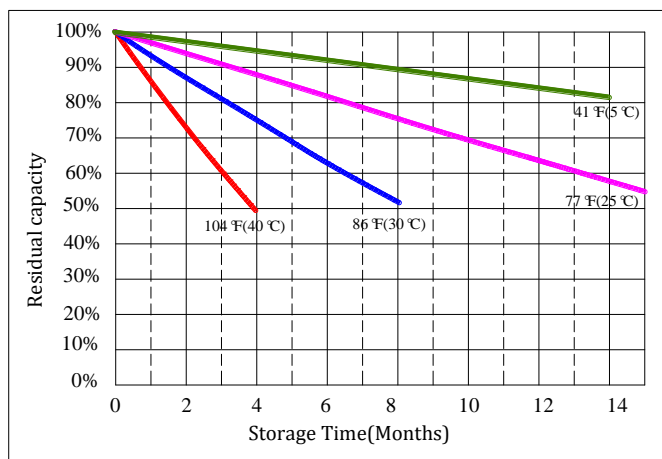
## Percent Capacity vs. Temperature



## State of Charge(SOC) vs Open Circuit Voltage(OCV)



## Capacity Retention Characteristic



## Cycle Life vs. Depth of Discharge(DOD)

