

# General Purpose Gel VRLA Battery

# FCG12-70

The FCG (General Purpose Gel) Series is especially designed for outdoor backup use. By combining the newly developed Nano Gel electrolyte with up-to-date AGM structures, The FCG Series features 10+ years design life and can provide optimum and reliable service under extreme condition such as high temperature and frequent power failure, This series is highly suited for outdoor applications.

12V  
Voltage

70Ah  
Capacity

Gel  
Technolog

General  
Purpose



### COMPLIED STANDARDS

IEC 60896-21/22    JIS C8704  
 YD/T1360            BS6290 part4  
 GB/T 19638        UL 1989

### GENERAL FEATURES

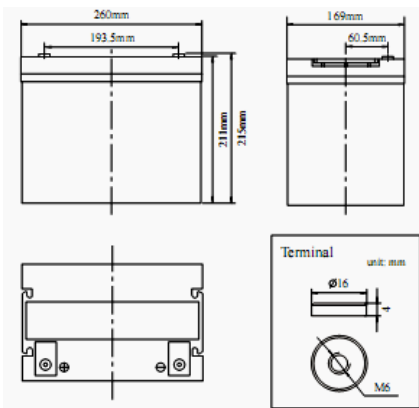
- Wide operating temperature range from -15°C to 60°C
- Nano gel electrolyte and long Floating service Life;
- Can be used at vertical or horizontal orientation;
- high power density;
- Low self discharge.

### APPLICATIONS

- Telecom Control Equipments
- UPS systems
- Communication Equipments
- Medical Equipments
- Emergency Power Systems
- Security Systems

### DIMENSIONS & WEIGHT

|                  |           |
|------------------|-----------|
| Length(mm)       | 260 ± 1   |
| Width(mm)        | 169 ± 1   |
| Height(mm)       | 211 ± 1   |
| Total Height(mm) | 215 ± 1   |
| Weight(kg)       | 21.8 ± 2% |



### TECHNICAL SPECIFICATIONS

|  |                           |  |
|--|---------------------------|--|
| Nominal Voltage                                    |                           | 12V(6 cells per unit)  |
| Design Floating Life @25°C                         |                           | 10 Years   |
| Nominal Capacity @25°C (10 hour rate@7.0A,10.8V)   |                           | 70Ah   |
| Capacity @25°C                                     | 20hour rate (3.71A,10.8V) | 74.2Ah   |
|  | 5 hour rate (12.3A,10.5V) | 61.5Ah   |
|  | 1 hour rate (44.7A,9.6V)  | 44.7Ah   |
| Internal Resistance                                | Full Charged Battery@25°C | ≤6.5mΩ   |
| Ambient Temperature                                | Discharge                 | -15°C~60°C   |
|  | Charge                    | -15°C~60°C   |
|  | Storage                   | -15°C~45°C   |
| Max.Discharge Current@25°C                         |                           | 350A(5s)   |
| Capacity affected by Temperature (10 hr Capacity ) | 40°C                      | 108%   |
|  | 25°C                      | 100%   |
|  | 0°C                       | 90%  |
|  | -15°C                     | 70%  |
| Self-Discharge@25°C per Month                      |                           | 3%   |
| Charge (Constant Voltage) @25°C                    | Standby Use               | Initial Charging Current Less than 17.5A<br>Voltage 13.6-13.8V |
|  | Cycle Use                 | Initial Charging Current Less than 17.5A<br>Voltage 14.4-14.9V |

### BATTERY DISCHARGE TABEL

#### Discharge Constant Current per Cell (Amperes at 25°C)

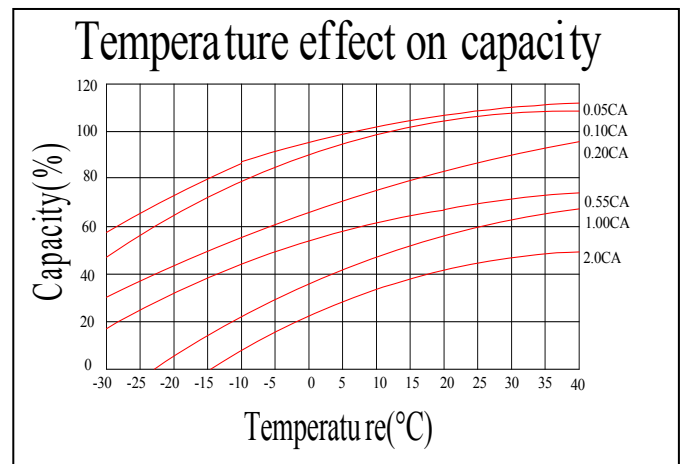
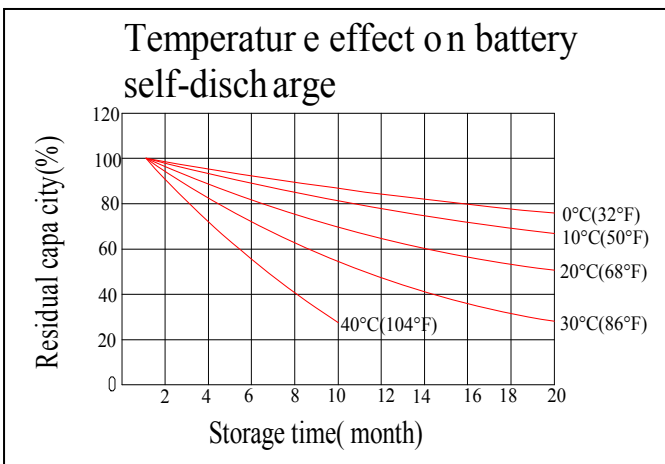
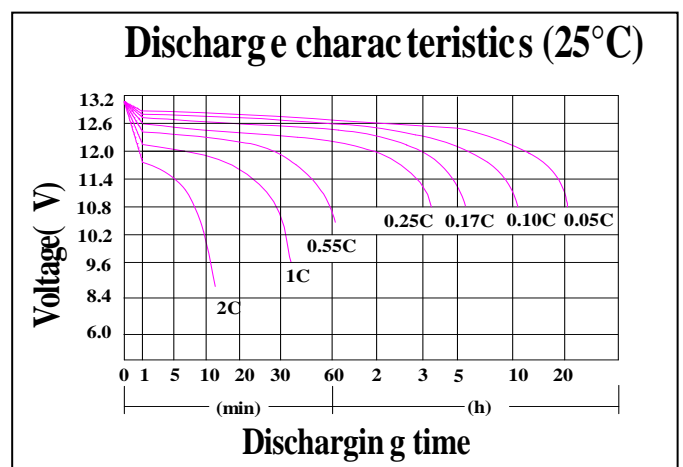
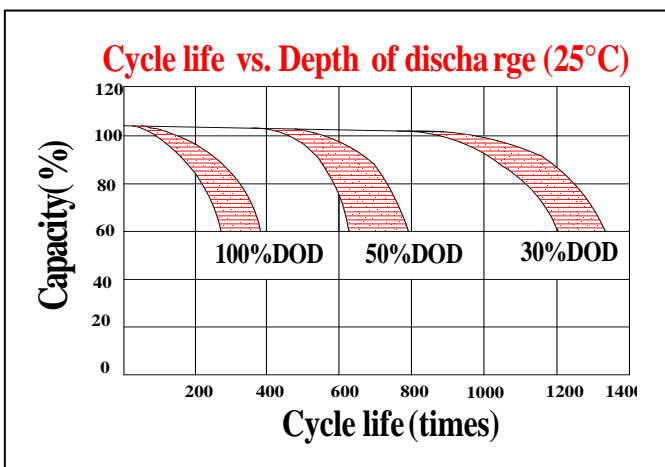
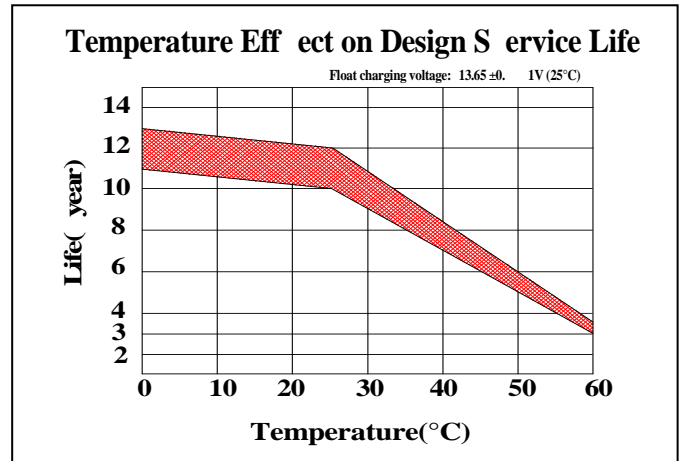
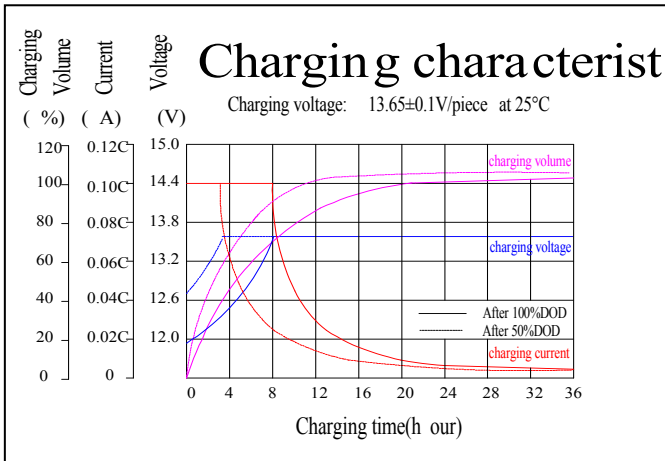
| F.V/Time | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   | 6h   | 8h  | 10h | 20h  |
|----------|-------|-------|-------|------|------|------|------|------|-----|-----|------|
| 1.60V    | 126.4 | 74.4  | 56.4  | 44.7 | 26.3 | 19.3 | 13.0 | 11.3 | 8.9 | 7.4 | 3.89 |
| 1.65V    | 119.4 | 70.5  | 54.2  | 43.3 | 25.4 | 18.7 | 12.8 | 11.1 | 8.8 | 7.2 | 3.85 |
| 1.70V    | 112.1 | 68.5  | 52.2  | 41.7 | 24.7 | 18.2 | 12.5 | 10.9 | 8.7 | 7.1 | 3.81 |
| 1.75V    | 105.0 | 65.5  | 49.9  | 40.0 | 24.1 | 17.8 | 12.3 | 10.7 | 8.5 | 7.1 | 3.77 |
| 1.80V    | 98.5  | 63.1  | 48.1  | 38.6 | 23.2 | 17.2 | 12.0 | 10.5 | 8.4 | 7.0 | 3.71 |

#### Discharge Constant Power per Cell (Watts at 25°C)

| F.V/Time | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   | 6h   | 8h   | 10h  | 20h |
|----------|-------|-------|-------|------|------|------|------|------|------|------|-----|
| 1.60V    | 241.6 | 147.8 | 107.0 | 85.7 | 49.8 | 36.9 | 25.1 | 21.9 | 17.4 | 14.4 | 7.5 |
| 1.65V    | 231.1 | 141.3 | 103.4 | 83.4 | 48.4 | 35.9 | 24.7 | 21.6 | 17.2 | 14.2 | 7.4 |
| 1.70V    | 215.4 | 135.5 | 100.1 | 80.5 | 47.3 | 35.1 | 24.4 | 21.3 | 17.0 | 14.1 | 7.4 |
| 1.75V    | 202.1 | 129.0 | 96.1  | 77.6 | 46.2 | 34.4 | 24.0 | 20.9 | 16.8 | 13.9 | 7.3 |
| 1.80V    | 189.7 | 123.8 | 92.9  | 75.0 | 44.7 | 33.4 | 23.5 | 20.6 | 16.6 | 13.9 | 7.2 |

**Note** The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact MCA for the latest information.

## PERFORMANCE CHARACTERISTICS



## BATTERY CONSTRUCTION

| Component | Positive plate                               | Negative plate  | Container & Cover      | Safety valve                        | Terminal                                | Separator  | Electrolyte   | Pillar seal                 |
|-----------|--|---|------------------------|-------------------------------------|---|--|---|-----------------------------|
| Features  | Thick high Sn low Ca grid with special paste | Balanced Pb-Ca grid for improved recombination efficiency | ABS (UL94-V0 optional) | Flame Si-Rubber and aging resistant | Female Copper Insert M6(torque: 4~6N.m) | Advanced AGM separator for high pressure cell design | Dilute high purity sulphuric acid with fumed Silica gel | Two layers epoxy resin seal |

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