## DCG12-50

# Gel VRLA
# DCG Series - Deep Cycle Gel




Maintenance-free gel batteries with a thixotropic electrolyte deliver excellent deep-cycle endurance, enhanced safety, and strong vibration resistance. Built for harsh and higher temperature environments, they provide reliable cycling performance in applications such as medical devices, mobility equipment, and renewable energy systems.

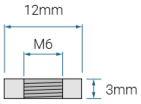
## Configuration Options

- DCG12-50 M6

## Performance Specs

| | |
|---|---|
| **Nominal Voltage** | 12.0 Volts, (6.0 cells) |
| **Nominal Capacity** | |
| 20-hr. (2.5A to 10.8 Volts) | 50.0Ah |
| 10-hr. (4.7A to 10.8 Volts) | 47.0Ah |
| 5-hr. (8.1A to 10.2 Volts) | 40.5Ah |
| 1-hr. (30.9A to 9.6 Volts) | 30.9Ah |
| **Approximate Weight** | 35.49lbs, (16.1kg) |
| **Dimensions**<br>+/- 0.08 in. (+/- 2mm) for length, width, and height dimensions | **L:** 9.02in, 229.0mm<br>**W:** 5.43in, 138.0mm<br>**H:** 8.07in, 205.0mm<br>**TH:** 8.31in, 211.0mm |
| **Internal Resistance (approx.) mΩ** | 12.1mΩ |
| **Max Short Circuit Discharge Current** | 1150.0A |
| **Operating Temperature Range** | |
| Charge | –4°F (–20°C) to 104°F (40°C) |
| Discharge | –4°F (–20°C) to 140°F (60°C) |
| **Case** | ABS (UL94 HB or V-0 optional) |
| **Recommended Power-Sonic Charger** | PSC-124000ACX |

## Available Terminals (mm)



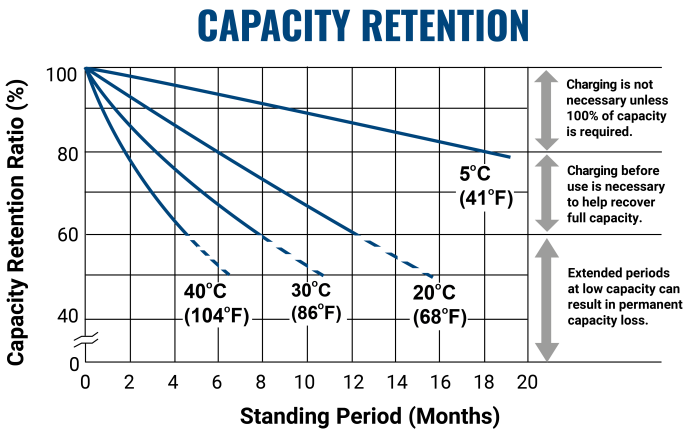



Torque: 2.0~3.0 Nxm

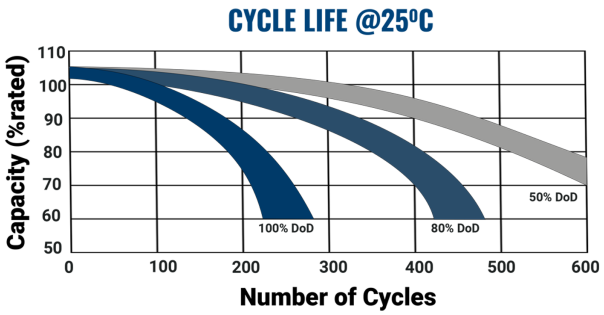
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# Graphs

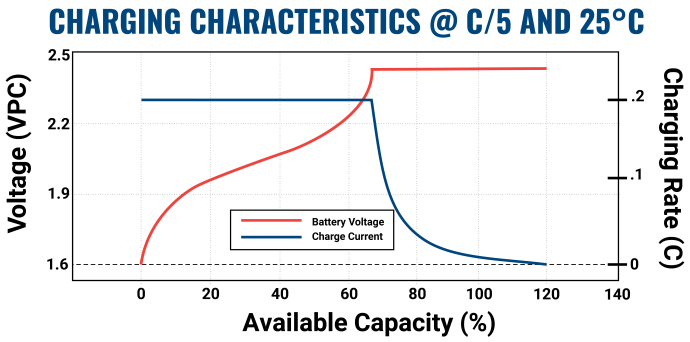
## Capacity Retention SLA



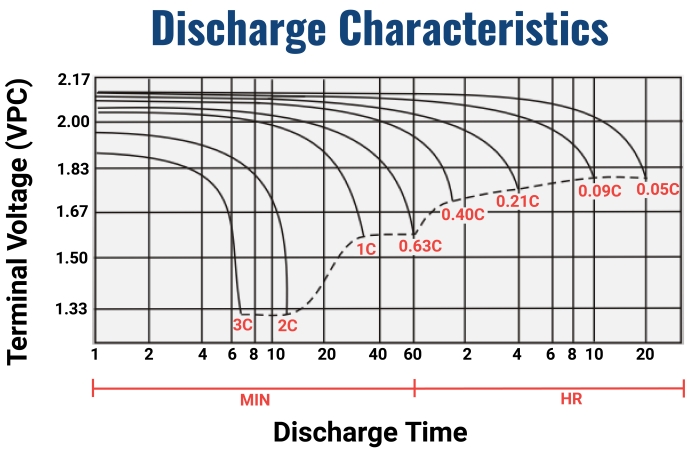

## PDC Cycle Life




## SLA Charging




## SLA Discharge Rates




## Constant Current

| VoltageOverTime | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V/cell | 90.3 | 77.3 | 60.0 | 46.4 | 33.5 | 30.9 | 21.7 | 16.9 | 12.2 | 9.74 | 8.41 | 7.3 | 5.77 | 4.94 | 2.66 |
| 1.65V/cell | 87.5 | 75.3 | 58.6 | 45.9 | 33.1 | 30.1 | 21.3 | 16.8 | 12.1 | 9.59 | 8.25 | 7.24 | 5.74 | 8.9 | 2.64 |
| 1.67V/cell | 87.3 | 75.0 | 58.4 | 45.8 | 33.0 | 30.0 | 21.2 | 16.7 | 12.0 | 9.56 | 8.23 | 7.2 | 5.72 | 4.89 | 2.63 |
| 1.70V/cell | 83.0 | 72.0 | 56.4 | 44.5 | 32.4 | 29.4 | 20.8 | 16.3 | 11.8 | 9.39 | 8.1 | 7.1 | 5.67 | 4.84 | 2.61 |
| 1.75V/cell | 79.4 | 68.6 | 53.7 | 44.2 | 31.9 | 28.5 | 20.2 | 16.0 | 11.7 | 9.39 | 8.0 | 7.08 | 5.63 | 4.85 | 2.57 |
| 1.80V/cell | 73.2 | 63.3 | 49.7 | 43.3 | 30.8 | 25.4 | 18.4 | 14.9 | 11.2 | 9.12 | 7.76 | 6.85 | 5.53 | 4.7 | 2.5 |
| 1.85V/cell | 64.5 | 55.9 | 44.0 | 39.8 | 29.1 | 23.0 | 17.4 | 13.5 | 10.2 | 8.39 | 7.37 | 6.49 | 5.31 | 4.61 | 2.38 |

## Constant Power

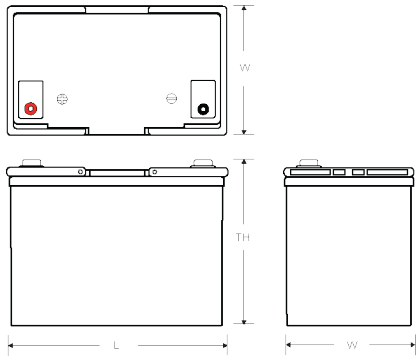
| VoltageOverTime | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V/cell | 156.9 | 136.9 | 108.2 | 85.1 | 62.2 | 58.0 | 40.9 | 32.3 | 23.3 | 18.8 | 16.3 | 14.2 | 11.3 | 9.68 | 5.08 |
| 1.65V/cell | 155.1 | 135.3 | 106.8 | 84.9 | 62.0 | 56.9 | 40.4 | 31.9 | 23.22 | 18.6 | 16.1 | 14.12 | 11.23 | 9.61 | 5.03 |
| 1.67V/cell | 154.7 | 135.0 | 106.6 | 84.7 | 61.9 | 56.8 | 40.3 | 31.8 | 23.2 | 18.5 | 16.0 | 14.1 | 11.2 | 9.59 | 5.03 |
| 1.70V/cell | 148.9 | 131.0 | 103.8 | 82.9 | 61.1 | 55.9 | 39.6 | 31.3 | 22.9 | 18.2 | 15.8 | 13.9 | 11.1 | 9.49 | 4.99 |
| 1.75V/cell | 144.8 | 126.4 | 99.9 | 83.1 | 60.7 | 54.6 | 38.9 | 30.9 | 22.6 | 18.3 | 15.6 | 13.9 | 11.1 | 9.59 | 4.92 |
| 1.80V/cell | 135.7 | 118.4 | 93.6 | 82.1 | 58.9 | 49.1 | 35.8 | 29.0 | 21.8 | 17.9 | 15.3 | 13.4 | 10.9 | 9.3 | 4.78 |
| 1.85V/cell | 121.3 | 105.8 | 83.6 | 76.0 | 56.0 | 44.7 | 33.9 | 26.4 | 20.0 | 16.5 | 14.6 | 12.8 | 10.6 | 9.15 | 4.57 |

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## Charging

Cycle Applications: Apply constant voltage charge at 2.35VPC – 2.45VPC (14.1 to 14.7 volts for 12V Monobloc) at 20°C. The initial charging current should be set at less than C/5 Amps. Switch to float charge when the current falls to a 3% capacity rate to avoid overcharging. Stand-By or "Float" Service: Apply constant voltage charge of 2.25VPC – 2.30VPC (13.5 to 13.8 volts for 12V Monobloc) at 20°C. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition. Temperature Compensation: Charging voltage for both cyclic and stand-by applications should be regulated in relation to ambient temperature. As temperature rises, charging voltage should be reduced to prevent overcharge and increased as the temperature falls to avoid undercharge. For further charging information, including temperature compensation factors, see the Power-Sonic Technical Manual.

## Engineering Drawing




## For Further Information

Please refer to our website, **www.power-sonic.com**, for a complete range of useful downloads, such as product catalogs, material safety data sheets (MSDS), ISO certification, etc.

## Approvals

ISO 9001:2015 certification ensures consistent quality management and manufacturing standards for energy storage products.

California Proposition 65 compliant, providing consumer safety through reduced chemical exposure in battery manufacturing.

Sealed lead-acid batteries classified UN2800 non-spillable, certified safe for air, sea, and ground transport worldwide.

UL Recognized mark certifies safety-tested components for electrical reliability in battery and energy storage systems.

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