# SUPERCAPACITORS

<table>
<thead>
<tr>
<th>Type</th>
<th>EDLC</th>
<th>LIC Hybrid</th>
<th>Coincell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>DGH</td>
<td>DSF</td>
<td>VMF</td>
</tr>
<tr>
<td>Description</td>
<td>• Very Fast Charge/Discharge • High Power Density • Low ESR</td>
<td>• High Voltage 3.0 Vdc • Higher Energy Density than 2.7 V (+24%)</td>
<td>• High Voltage 3.8V • High Energy Density • High Temp. +85 ºC</td>
</tr>
<tr>
<td>Capacitance Range (Tolerance)</td>
<td>0.5F to 600F (-10% +30%)</td>
<td>1.5F to 600F (-10% +30%)</td>
<td>40F to 220F (±20%)</td>
</tr>
<tr>
<td>WVdc</td>
<td>2.7 Vdc (1F to 600F) 5.5 Vdc (0.5F to 5F)</td>
<td>3 Vdc (3F to 600F) 6 Vdc (1.5F to 5F)</td>
<td>2.2 Vdc - 3.8 Vdc (Vmin - Vmax)</td>
</tr>
<tr>
<td>Temp. Range</td>
<td>-40 ºC to +85 ºC (2.3 Vdc @ +85 ºC)</td>
<td>-40 ºC to +85 ºC (2.5 Vdc @ +85 ºC)</td>
<td>-15 ºC to +70 ºC (3.3 Vdc @ +85 ºC)</td>
</tr>
<tr>
<td>ESR</td>
<td>3mΩ - 200mΩ (2.7 Vdc, AC 1kHz) 80mΩ - 400mΩ (5.5 Vdc, AC 1kHz)</td>
<td>3mΩ - 80mΩ (3 Vdc, AC 1kHz) 100mΩ - 180mΩ (6 Vdc, AC 1kHz)</td>
<td>60mΩ - 250mΩ (AC 1kHz)</td>
</tr>
<tr>
<td>Case Size</td>
<td>ø 6mm - 35mm (2.7 Vdc) 15mm - 26mm (5.5 Vdc)</td>
<td>ø 6mm - 35mm (3 Vdc) 15mm - 21mm (6 Vdc)</td>
<td>ø 8mm - 18mm</td>
</tr>
<tr>
<td>Life Time</td>
<td>• 1,500 h with Vr @ 65 ºC • 10 years @ ambient Temp. • 500,000+ cycles</td>
<td>• 1,500 h with Vr @ 65 ºC • 10 years @ ambient Temp. • 500,000+ cycles</td>
<td>• 1,000 h with Vr @ 70 ºC • 10 Years • 250,000+ cycles</td>
</tr>
<tr>
<td>Lead Configurations</td>
<td>Radial - 1F to 70F 2 Pin Snap In - 100F to 350F 4 Pin Snap In - 400F to 600F Dual Pack (5.5 Vdc) - 1F to 5F</td>
<td>Radial - 3F to 110F 2 Pin Snap In - 100F to 200F 4 Pin Snap In - 350F to 600F Dual Pack (6 Vdc) - 1.5F to 5F</td>
<td>Radial</td>
</tr>
</tbody>
</table>

**Applications**

- Industrial IoT
- Green Energy/Wind/Solar
- Small EV
- Power backup
- Pulse Power
- Energy Harvesting
- UPS Systems
- Mechanical Actuators
- LED Displays
- UPS Systems
- Asset Tracking
- AGV

**Supercapacitors**

- **Type EDLC LIC Hybrid Coincell**
- **Description**
  - Very Fast Charge/Discharge
  - High Power Density
  - Low ESR
- **Capacitance Range (Tolerance)**
  - 0.5F to 600F (-10% +30%)
  - 1.5F to 600F (-10% +30%)
  - 40F to 220F (±20%)
- **WVdc**
  - 2.7 Vdc (1F to 600F)
  - 5.5 Vdc (0.5F to 5F)
- **Temp. Range**
  - -40 ºC to +85 ºC (2.3 Vdc @ +85 ºC)
  - -40 ºC to +85 ºC (2.5 Vdc @ +85 ºC)
- **ESR**
  - 3mΩ - 200mΩ (2.7 Vdc, AC 1kHz)
  - 3mΩ - 80mΩ (3 Vdc, AC 1kHz)
- **Case Size**
  - ø 6mm - 35mm (2.7 Vdc)
  - ø 6mm - 35mm (3 Vdc)
- **Life Time**
  - 1,500 h with Vr @ 65 ºC
  - 1,500 h with Vr @ 65 ºC
- **Lead Configurations**
  - Radial - 1F to 70F
  - Radial - 3F to 110F
- **Applications**
  - Industrial IoT
  - Green Energy/Wind/Solar
  - Small EV

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