38999 Series III
Integrated Backshell

Plug with integrated backshell: all the features and the benefits of 38999 Series III connectors now ready to use.

**Embedded backshell**
- Space and time saving.
- Better electrical continuity and signal protection.
- Lighter than with standard backshell.
- Easier supply chain.
- Single piece backshell and connector.

**EMI backshell**
- Shield band compatible.
- Overmolding best solution.

**Flexibility**
- All Series III layouts developed by SOURIAU available (more than 90 layouts).

**Versatility**
- Compatible, among others, with VG95343 and MIL-I-81765 heat shrink boots.

Not QPL registered.
38999 Series III  |  Integrated Backshell

**Description**

- Derived from standard MIL-DTL-38999 Series III
- Plug in 9 sizes (from size 09 to 25)
- Black zinc nickel RoHS plating, a robust QPL 500 hours finish backward compatible with cadmium receptacle.
- Standard cadmium and nickel plating available.

**Technical features**

### Mechanical
- **Shell**: Aluminum
- **Shell plating**:
  - Nickel (F)
  - Black zinc nickel (Z)
  - Olive drab cadmium: (W)
- **Insulator**: Thermoplastic
- **Seal**: Silicone elastomer
- **Contact**: Copper alloy
- **Contact plating**: Gold over nickel
- **Endurance**: 500 matings/unmatings
- **Shock & Vibration**: According to 38999 specification

### Electrical

- **Contact resistance**:
<table>
<thead>
<tr>
<th>Contacts size</th>
<th>22</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance mΩ</td>
<td>14.6</td>
<td>7.3</td>
<td>3.8</td>
<td>3.5</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
- **Insulation resistance**: ≥5000 mΩ (at 500Vdc)
- **Contact rating**:
<table>
<thead>
<tr>
<th>Contacts size</th>
<th>22</th>
<th>20</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating (A)</td>
<td>5</td>
<td>7.5</td>
<td>13</td>
<td>23</td>
<td>45</td>
<td>80</td>
</tr>
</tbody>
</table>
- **Shell continuity**:
  - Nickel (F): 1 mΩ
  - Black zinc nickel (Z): 2.5 mΩ
  - Olive drab cadmium (W): 2.5 mΩ

### Environmental

- **Temperature range**: -55°C to +175°C (Z & W)
  -55°C to +200°C (F)
- **Sealing mated connectors**: IP 67 (1 meter for 30 min minimum)
- **Salt spray**:
  - 48 hours (F)
  - 500 hours (Z & W)

### Resistance to fluids

- According to MIL-DTL-38999 standard
  - Gasoline: JP5 (OTAN F44)
  - Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
  - Synthetic hydraulic fluid: Skydrol 500 B4
- **LD4 (SAE AS 1241)**
  - Mineral lubricating: MIL-L-7870A (OTAN 0142)
  - Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L-7808
  - Cleaning fluid: MIL-C-87936 diluted
  - De-icing fluid: MIL-A-8243
  - Extinguishing fluid: Bromochloromethane
  - Cooling fluid: Coolanol
Ordering information

Basic series: 8DA

Shell type:
S: Plug with RFI shielding

Style:
- Connector with standard crimp contacts

Shell size:
09, 11, 13, 15, 17, 19, 21, 23, 25

Plating:
Z: Black zinc nickel
F: Nickel
W: Olive drab cadmium

Contact layout:
See «8D Series - MIL-DTL-38999 Series III» SOURIAU catalog

Contact type:
P: Male
S: Female

Orientation:
N, A, B, C, D, E
L: Without contact

Note: Power, Quadrax and Optical layouts, please consult us. Type 0 and Type 7 on request.

3D models

8D Integrated Backshell 3D models are available on www.traceparts.online.net
Registration is quick and the downloads are free!

Dimensions

Plug Type 5

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>ØA</th>
<th>ØB</th>
</tr>
</thead>
<tbody>
<tr>
<td>09</td>
<td>11.1/0.44</td>
<td>21.8/0.86</td>
</tr>
<tr>
<td>11</td>
<td>14.1/0.55</td>
<td>25.0/0.98</td>
</tr>
<tr>
<td>13</td>
<td>17.1/0.67</td>
<td>29.4/1.16</td>
</tr>
<tr>
<td>15</td>
<td>21.1/0.83</td>
<td>32.5/1.28</td>
</tr>
<tr>
<td>17</td>
<td>24.1/0.95</td>
<td>35.7/1.41</td>
</tr>
<tr>
<td>19</td>
<td>27.1/1.07</td>
<td>38.5/1.52</td>
</tr>
<tr>
<td>21</td>
<td>30.1/1.18</td>
<td>41.7/1.64</td>
</tr>
<tr>
<td>23</td>
<td>33.1/1.30</td>
<td>44.9/1.77</td>
</tr>
<tr>
<td>25</td>
<td>36.1/1.42</td>
<td>48.0/1.89</td>
</tr>
</tbody>
</table>

Note: All dimensions are in millimeters and inches (mm/inch)
Connectors weight - in gram (±15%)

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Weight with contacts</td>
<td>14.92</td>
<td>20.62</td>
<td>29.82</td>
<td>40.37</td>
<td>48.33</td>
<td>59.51</td>
<td>70.23</td>
<td>82.41</td>
<td>96.86</td>
</tr>
</tbody>
</table>

Accessories & Tooling

Recommended accessories for wiring

<table>
<thead>
<tr>
<th>Shell size</th>
<th>Shield band (recommended)</th>
<th>Hand banding tool</th>
<th>Rear diameter to fit with boot</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>85930337A (individually coiled) 85930338A (not individually coiled)</td>
<td>85930339A</td>
<td>11.1/0.44</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>14.1/0.55</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td>17.1/0.67</td>
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<tr>
<td>15</td>
<td></td>
<td></td>
<td>21.1/0.83</td>
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<td></td>
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<td>19</td>
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<tr>
<td>21</td>
<td></td>
<td></td>
<td>30.1/1.18</td>
</tr>
<tr>
<td>23</td>
<td>85999344 (not individually coiled) 85999345 (individually coiled)</td>
<td>85999346</td>
<td>33.1/1.30</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td>36.1/1.42</td>
</tr>
</tbody>
</table>

To order braid, boot or other accessories, please contact your SOURIAU distributor.

Shield Band Dimension

Note: All dimensions are in millimeters and inches (mm/inch)
Accessories & Tooling

Recommended installation torque

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>Installation Torque (Inch-Pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09, 11, 13, 15, 17 &amp; 19</td>
<td>40</td>
</tr>
<tr>
<td>21, 23 &amp; 25</td>
<td>80</td>
</tr>
</tbody>
</table>

Note: Torque values are based on 80% of the coupling thread strength specified in SAE-AS85049 standard.

Crimping tools - for standard contacts

Insertion & extraction tools - for standard contacts

Tightening support

Part number: 8599-0831
This tool is made up of dummy receptacles housings of all 9 sizes for all key polarisation, and secures free connectors during wiring and fitting of rear accessories.

Other Accessories, Tooling & Contacts

See SOURIAU «8D Series - MIL-DTL-38999 Series III» catalog.

For further information contact us at contactmilaero@souriau.com or visit our web site www.souriau.com