MIL-DTL-38999
Contact Materials and Performance Specifications

MIL-DTL-38999 Contact Materials		
Component	**Material**	**Notes**
Pin Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Approved for Space Flight
Pin Contact, Hermetic	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Ferromagnetic material.
Socket Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Approved for Space Flight
Socket Contact Hood	Stainless steel, passivated per AMS-QQ-P-35.	Approved for Space Flight

<table>
<tr><th>Requirement</th><th colspan="2">Contact Performance Specifications</th></tr>
<tr><td>Current Rating</td><td>(Per SAE-AS39029, Paragraph 3.5.4)</td><td>
<table>
<tr><th rowspan="2">Contact Size</th><th colspan="2">Maximum Amps</th></tr>
<tr><th>Crimp</th><th>Hermetic</th></tr>
<tr><td>23-22</td><td>5</td><td>3</td></tr>
<tr><td>22D</td><td>5</td><td>3</td></tr>
<tr><td>20</td><td>7.5</td><td>5</td></tr>
<tr><td>16</td><td>13</td><td>10</td></tr>
<tr><td>12</td><td>23</td><td>17</td></tr>
<tr><td>10</td><td>33</td><td>24</td></tr>
</table>
</td></tr>
<tr><td>Contact Resistance, Type A</td><td>(Per SAE-AS39029, Paragraph 3.5.4.1)
The contact voltage drop of each mated copper alloy contact pair shall not exceed the applicable values specified.</td><td>
<table>
<tr><th>Wire Size</th><th>Test Current Amperes</th><th>Maximum Voltage Drop (Millivolts) at 25°C ±3°C</th></tr>
<tr><td>10</td><td>33</td><td>33</td></tr>
<tr><td>12</td><td>23</td><td>42</td></tr>
<tr><td>16</td><td>13</td><td>49</td></tr>
<tr><td>20</td><td>7.5</td><td>55</td></tr>
<tr><td>22</td><td>22</td><td>73</td></tr>
</table>
</td></tr>
<tr><td>Contact Resistance, Type B</td><td>(Per SAE-AS39029, Paragraph 3.5.4.2)
The contact voltage drop of each ferrous alloy contact with its applicable mating copper alloy contact shall not exceed the applicable values specified.</td><td>
<table>
<tr><th>Wire Size</th><th>Test Current Amperes</th><th>Maximum Voltage Drop (Millivolts) at 25°C ±3°C</th></tr>
<tr><td>10</td><td>23</td><td>363</td></tr>
<tr><td>12</td><td>17</td><td>462</td></tr>
<tr><td>16</td><td>10</td><td>539</td></tr>
<tr><td>20</td><td>55</td><td>605</td></tr>
<tr><td>22</td><td>3</td><td>803</td></tr>
</table>
</td></tr>
</table>

Dimensions in Inches (millimeters) are subject to change without notice.

U.S. CAGE Code 06324

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