

MIL-DTL-38999 Series I Type 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

REQUIREMENT	CONTACT PERFORMANCE SPECIFICATIONS																									
Current Rating	(Per SAE-AS39029, Paragraph 3.5.4)	<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>	Contact Size	Maximum Amps		Crimp	Hermetic	23-22	5	3	22D	5	3	20	7.5	5	16	13	10	12	23	17	10	33	24	
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Contact Resistance, Type A	(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.	<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>	Wire Size	Test Current Amperes	Maximum Voltage Drop (Millivolts) at 25°C ±3°C	10	33	33	12	23	42	16	13	49	20	7.5	55	22	22	73						
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		Contact Resistance, Type B	(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.	<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>	Wire Size	Test Current Amperes	Maximum Voltage Drop (Millivolts) at 25°C ±3°C	10	23	363	12	17	462	16	10	539	20	55	605	22	3	803				
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