

TEST REPORT

BOSCH AB10a 24+24P HEADER
(RESTRICTED FOR BOSCH)

Date of issue: 23 Apr, 2012

Prepared	Signature: <i>Xiaozheng Jin</i> 26 Apr. 12
Check	Signature: <i>You Zhong</i> 26 Apr 12
Approval	Signature: <i>K. Qian</i>

TE Connectivity Shanghai, China
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1. Test Purpose

PV test

2. Test Product

No.	Part Number	Product Description
1	2137044-3	48P header
2	284714-2 + 284224-2	24P plug coding A
3	284714-1 + 284224-1	24P plug coding B
4	144969-2	Female MQS contact

3. Test Specification

108-101196

4. Test Items and Results

Test Group	Test items in test group	Conclusion
1	Confirmation of product, Pin retention force	OK
2	Confirmation of product, Connector mating force, Connector un-mating force	OK
3	Confirmation of product, Voltage drop, Pin retention force	OK
4	Confirmation of product, Voltage drop, Thermal shock test, Dielectric withstanding voltage, Insulation resistance	OK
5	Confirmation of product, Solderability test	OK
6	Confirmation of product, Voltage drop, Vibration test	OK
7	Confirmation of product, Voltage drop, High temperature endurance test, Dielectric withstanding voltage, Insulation resistance	OK
8	Confirmation of product, Voltage drop, Temperature Rising	OK
9	Confirmation of product, Voltage drop, Temperature/humidity test, Insulation resistance, Connector mating force, Connector un-mating force	OK

5. Test Duration

2011.09.22----2012.04.18

6. Tested By

Xiaozheng Jin

7. General Remarks

- Environment temperature: 25°C
- Environment relative humidity: 45%~70%

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Group 1: Confirmation of product, Pin retention force

Test Sample	Part Number/Date receive	Remarks
1(1)—1(2)	2137044-3	48P header

1.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall conform to the requirements of applicable product drawing and Application Specification	0/2 Samples: 1(1)—1(2)	Products meet requirements.
1.2	Pin retention force	§3.5.2	Apply the load to pin to axis direction at the rate of 50 ± 10mm/min and measure the maximum force.	25N min	0/2 Samples: 1(1)—1(2)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit:N									
		Left(Black)				Right(Grey)			
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	71.69	13	---	1	69.22	13	---		
2	79.39	14	---	2	69.17	14	---		
3	75.63	15	---	3	81.70	15	---		
4	72.92	16	---	4	84.52	16	---		
5	76.86	17	---	5	81.33	17	---		
6	77.94	18	---	6	83.05	18	---		
7	81.19	19	---	7	78.73	19	---		
8	77.25	20	---	8	83.44	20	---		
9	77.30	21	---	9	84.75	21	---		
10	77.27	22	---	10	78.11	22	---		
11	71.44	23	---	11	80.14	23	---		
12	68.88	24	---	12	85.83	24	---		
Max					85.83				
Min					68.88				
Avg					77.82				

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample2		unit:N		Left(Black)		Right(Grey)	
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	---	13	68.98	1	---	13	55.13
2	---	14	79.03	2	---	14	56.28
3	---	15	76.56	3	---	15	63.81
4	---	16	74.50	4	---	16	67.08
5	---	17	73.73	5	---	17	69.55
6	---	18	79.84	6	---	18	65.94
7	---	19	78.27	7	---	19	68.50
8	---	20	80.53	8	---	20	68.97
9	---	21	77.44	9	---	21	68.77
10	---	22	78.44	10	---	22	67.63
11	---	23	76.31	11	---	23	62.28
12	---	24	78.47	12	---	24	60.31
Max	80.53						
Min	55.13						
Avg	70.68						

Group2: Confirmation of product, Connector mating force, Connector un-mating force	
Test Sample	Part Number/Date receive
	2137044-3
2(1)—2(3)	284714-2 + 284224-2
	284714-1 + 284224-1
	Remarks
	48P header
	24P plug coding A
	24P plug coding B

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																														
2.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 2(1)—2(3)	Products meet requirements.																														
2.2	Connector mating force	§3.5.3	Connectors to be mated together by applying a measured force at speed 50 mm/min to slide fully seated and locked at the first time.	Mating force<70N	0/3 Samples: 2(1)—2(3)	Products meet requirements. <table border="1" data-bbox="603 504 858 840" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">sample</th> <th colspan="2">mating force</th> <th rowspan="2">unit:N</th> </tr> <tr> <th>left</th> <th>right</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>23.5</td> <td>27.1</td> <td></td> </tr> <tr> <td>2</td> <td>27.7</td> <td>26.7</td> <td></td> </tr> <tr> <td>3</td> <td>27.8</td> <td>22.4</td> <td></td> </tr> <tr> <td>Max</td> <td colspan="2">27.8</td> <td></td> </tr> <tr> <td>Min</td> <td colspan="2">22.4</td> <td></td> </tr> <tr> <td>Avg</td> <td colspan="2">25.9</td> <td></td> </tr> </tbody> </table>	sample	mating force		unit:N	left	right	1	23.5	27.1		2	27.7	26.7		3	27.8	22.4		Max	27.8			Min	22.4			Avg	25.9		
sample	mating force		unit:N																																	
	left	right																																		
1	23.5	27.1																																		
2	27.7	26.7																																		
3	27.8	22.4																																		
Max	27.8																																			
Min	22.4																																			
Avg	25.9																																			

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																								
2.3	Connector un-mating force	§3.5.4	Connectors without primary lock to be unmated by applying a measured force at speed 50 mm/min to slide out at the first time.	Un-mating Force<70N	0/3 Samples: 2(1)—2(3)	Products meet requirements. <table border="1" data-bbox="343 465 595 835"> <thead> <tr> <th>sample</th> <th colspan="2">un-mating force unit:N</th> </tr> <tr> <td></td> <th>left</th> <th>right</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>20.7</td> <td>22.4</td> </tr> <tr> <td>2</td> <td>21.3</td> <td>23.6</td> </tr> <tr> <td>3</td> <td>19.9</td> <td>20.5</td> </tr> <tr> <td>Max</td> <td></td> <td>23.6</td> </tr> <tr> <td>Min</td> <td></td> <td>19.9</td> </tr> <tr> <td>Avg</td> <td></td> <td>21.4</td> </tr> </tbody> </table>	sample	un-mating force unit:N			left	right	1	20.7	22.4	2	21.3	23.6	3	19.9	20.5	Max		23.6	Min		19.9	Avg		21.4
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2.4	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 2(1)—2(3)	Products meet requirements.																								

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Group 3: Confirmation of product, Voltage drop, Pin retention force						
Test Sample	Part Number/Date receive	Remarks				
	2137044-3	48P header				
3(1)—3(2)	284714-2 + 284224-2	24P plug coding A				
	284714-1 + 284224-1	24P plug coding B				

3.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/2 Samples: 3(1)—3(2)	Products meet requirements.
3.2	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc<8mV/A, After ageing test: Δ Rc<5 mV/A	0/2 Samples: 3(1)—3(2)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A									
Left (Black)					Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	3.83	13	---	1	3.12	13	---		
2	3.70	14	---	2	3.75	14	---		
3	3.65	15	---	3	3.40	15	---		
4	3.74	16	---	4	3.32	16	---		
5	3.58	17	---	5	3.49	17	---		
6	3.38	18	---	6	3.33	18	---		
7	3.75	19	---	7	3.50	19	---		
8	3.52	20	---	8	3.14	20	---		
9	3.42	21	---	9	3.42	21	---		
10	3.43	22	---	10	3.22	22	---		
11	3.76	23	---	11	3.23	23	---		
12	3.69	24	---	12	3.21	24	---		
Max	3.83								
Min	3.12								
Avg	3.48								

Sample2 unit: mV/A									
Left (Black)					Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	3.31	1	---	13	3.83		
2	---	14	3.23	2	---	14	3.88		
3	---	15	3.42	3	---	15	3.75		
4	---	16	3.28	4	---	16	3.80		
5	---	17	3.33	5	---	17	3.92		
6	---	18	3.44	6	---	18	3.79		
7	---	19	3.24	7	---	19	3.70		
8	---	20	3.20	8	---	20	3.71		
9	---	21	3.03	9	---	21	3.86		

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
	10	22	3.37	10	22	3.61
	11	23	3.27	11	23	3.68
	12	24	3.20	12	24	3.53
	Max		3.92			
	Min		3.03			
	Avg		3.52			
3.3	Pin retention force	§3.5.2	Apply the load to pin to axis direction at the rate of 50 ± 10mm/min and measure the maximum force.	25N min	0/2 Samples: 3(1)—3(2)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit:N									
Left(Black)					Right(Grey)				
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	---	13	78.25	1	---	13	70.77		
2	---	14	77.66	2	---	14	73.31		
3	---	15	73.63	3	---	15	75.92		
4	---	16	78.56	4	---	16	77.16		
5	---	17	86.53	5	---	17	75.89		
6	---	18	81.27	6	---	18	66.81		
7	---	19	83.59	7	---	19	74.56		
8	---	20	83.44	8	---	20	72.09		
9	---	21	86.25	9	---	21	71.64		
10	---	22	75.94	10	---	22	73.94		
11	---	23	85.98	11	---	23	63.19		
12	---	24	81.00	12	---	24	67.00		
Max							86.53		
Min							63.19		
Avg							76.43		

Sample2 unit:N									
Left(Black)					Right(Grey)				
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	70.50	13	---	1	56.81	13	---		
2	72.08	14	---	2	70.59	14	---		
3	70.58	15	---	3	73.36	15	---		
4	71.28	16	---	4	75.44	16	---		
5	71.17	17	---	5	75.63	17	---		
6	74.39	18	---	6	68.95	18	---		
7	73.09	19	---	7	76.52	19	---		
8	71.77	20	---	8	74.16	20	---		
9	71.92	21	---	9	80.61	21	---		
10	75.44	22	---	10	72.98	22	---		
11	77.77	23	---	11	77.80	23	---		

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
12	69.69	24	—	12	76.77	24
Max				80.61		
Min				56.81		
Avg				72.89		

Group 4: Confirmation of product, Voltage drop, Thermal shock test, Dielectric withstanding voltage, Insulation resistance, Pin retention force		Part Number/Date receive	Remarks
Test Sample		2137044-3	48P header
4(1)—4(3)		284714-2 + 284224-2	24P plug coding A
		284714-1 + 284224-1	24P plug coding B

4.1	Confirmation of product	§3.5.1 Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 4(1)—4(3)	Products meet requirements.
4.2	Voltage drop	§3.5.7 Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp	Rc<8mV/A, After ageing test: Δ Rc<5 mV/A	0/3 Samples: 4(1)—4(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																																																																																																																																																
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5	2.88	5		17	3.25																																																																																																																																																	

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
4.3	Thermal shock test	§3.5.8	Temperature:- 40→+100 °C Low temperature: -40 °C for 60min High temperature : +100 °C for 60 min Test duration time: 200 hours Total 100 cycles Change time< 30s	Appearance no accepts: deterioration, cracks deformities, etc. Connector function meets the needs of Para. 3.5.2, 3.5.3, 3.5.4	0/3 Samples: 4(1)—4(3)	Products meet requirements.
4.4	Dielectric Withstanding Voltage	§3.5.5	Measured applying $\geq 1000V$ adjacent connector circuits of mated connector. Test condition: f= 50 Hz, t \geq 1 minute,	no breakdown, disruptive and creeping discharge or flashover.	0/3 Samples: 4(1)—4(3)	Products meet requirements.

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
4.5	Insulation Resistance	§3.5.6	Test condition: U=500V (DC), t ≥ 2s Measured after applying 500±5V to adjacent connector.	R ≥ 100MΩ	0/3 Samples: 4(1)—4(3)	R ≥ 10 ¹¹ Ω Products meet requirements.
4.6	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc < 8mV/A, After ageing test: ΔRc < 5 mV/A	0/3 Samples: 4(1)—4(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	5.62	13	---	6.63	13	---
2	6.18	14	---	5.96	14	---
3	5.08	15	---	5.66	15	---
4	4.80	16	---	6.00	16	---
5	3.70	17	---	6.86	17	---
6	3.71	18	---	3.26	18	---
7	3.61	19	---	3.47	19	---
8	3.31	20	---	3.62	20	---
9	3.43	21	---	3.26	21	---
10	3.42	22	---	3.39	22	---
11	3.48	23	---	3.31	23	---
12	3.29	24	---	3.32	24	---
Max	6.86					
Min	3.26					
Avg	4.35					

Sample2 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	---	13	4.47	---	13	6.98
2	---	14	4.67	---	14	4.00
3	---	15	4.53	---	15	5.31
4	---	16	3.74	---	16	4.09
5	---	17	4.21	---	17	3.69
6	---	18	3.94	---	18	3.63
7	---	19	3.41	---	19	3.54
8	---	20	3.49	---	20	3.33
9	---	21	3.38	---	21	3.73
10	---	22	3.48	---	22	3.58
11	---	23	3.33	---	23	3.30

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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12	—	24	3.52	12	—	24	3.63
Max							6.98
Min							3.30
Avg							3.96

Sample3 unit: mV/A

pin No.	Left (Black)			Right(Grey)			
	voltage	pin No.	voltage	voltage	pin No.	voltage	
1	—	13	—	4.92	13	6.94	
2	—	14	—	4.69	14	6.96	
3	—	15	—	3.82	15	4.17	
4	—	16	—	3.53	16	3.93	
5	—	17	—	3.32	17	3.90	
6	—	18	—	3.34	18	3.99	
7	3.55	19	3.22	—	19	—	
8	3.53	20	3.43	—	20	—	
9	3.60	21	3.48	—	21	—	
10	3.49	22	3.37	—	22	—	
11	3.43	23	3.80	—	23	—	
12	3.98	24	3.36	—	24	—	
Max							6.96
Min							3.22
Avg							3.99

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																																																																																																																													
4.7	Pin retention force	\$3.5.2	Apply the load to pin to axis direction at the rate of 50 ± 10mm/min and measure the maximum force.	25N min	0/3 Samples: 4(1)—4(3)	See the detail results as below																																																																																																																													
<table border="1"> <thead> <tr> <th colspan="7">Sample1 unit:N</th> </tr> <tr> <th rowspan="2">pin No.</th> <th colspan="4">Left(Black)</th> <th colspan="2">Right(Grey)</th> </tr> <tr> <th>Pin retention force</th> <th>pin No.</th> <th>Pin retention force</th> <th>pin No.</th> <th>Pin retention force</th> <th>pin No.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>54.13</td> <td>13</td> <td>---</td> <td>1</td> <td>60.13</td> <td>13</td> </tr> <tr> <td>2</td> <td>63.97</td> <td>14</td> <td>---</td> <td>2</td> <td>66.81</td> <td>14</td> </tr> <tr> <td>3</td> <td>53.69</td> <td>15</td> <td>---</td> <td>3</td> <td>54.41</td> <td>15</td> </tr> <tr> <td>4</td> <td>59.69</td> <td>16</td> <td>---</td> <td>4</td> <td>59.72</td> <td>16</td> </tr> <tr> <td>5</td> <td>56.00</td> <td>17</td> <td>---</td> <td>5</td> <td>55.69</td> <td>17</td> </tr> <tr> <td>6</td> <td>58.56</td> <td>18</td> <td>---</td> <td>6</td> <td>54.31</td> <td>18</td> </tr> <tr> <td>7</td> <td>55.03</td> <td>19</td> <td>---</td> <td>7</td> <td>59.53</td> <td>19</td> </tr> <tr> <td>8</td> <td>59.31</td> <td>20</td> <td>---</td> <td>8</td> <td>60.69</td> <td>20</td> </tr> <tr> <td>9</td> <td>58.16</td> <td>21</td> <td>---</td> <td>9</td> <td>61.78</td> <td>21</td> </tr> <tr> <td>10</td> <td>57.31</td> <td>22</td> <td>---</td> <td>10</td> <td>52.13</td> <td>22</td> </tr> <tr> <td>11</td> <td>58.03</td> <td>23</td> <td>---</td> <td>11</td> <td>62.34</td> <td>23</td> </tr> <tr> <td>12</td> <td>56.75</td> <td>24</td> <td>---</td> <td>12</td> <td>58.25</td> <td>24</td> </tr> <tr> <td>Max</td> <td colspan="6">66.81</td> </tr> <tr> <td>Min</td> <td colspan="6">52.13</td> </tr> <tr> <td>Avg</td> <td colspan="6">58.18</td> </tr> </tbody> </table>							Sample1 unit:N							pin No.	Left(Black)				Right(Grey)		Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	1	54.13	13	---	1	60.13	13	2	63.97	14	---	2	66.81	14	3	53.69	15	---	3	54.41	15	4	59.69	16	---	4	59.72	16	5	56.00	17	---	5	55.69	17	6	58.56	18	---	6	54.31	18	7	55.03	19	---	7	59.53	19	8	59.31	20	---	8	60.69	20	9	58.16	21	---	9	61.78	21	10	57.31	22	---	10	52.13	22	11	58.03	23	---	11	62.34	23	12	56.75	24	---	12	58.25	24	Max	66.81						Min	52.13						Avg	58.18					
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No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample2		unit:N		Left(Black)		Right(Grey)	
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	---	13	63.84	1	---	13	56.16
2	---	14	58.84	2	---	14	53.59
3	---	15	62.63	3	---	15	58.47
4	---	16	67.78	4	---	16	52.19
5	---	17	60.56	5	---	17	54.88
6	---	18	68.66	6	---	18	62.56
7	---	19	60.97	7	---	19	59.72
8	---	20	68.03	8	---	20	54.19
9	---	21	61.78	9	---	21	58.88
10	---	22	62.06	10	---	22	58.53
11	---	23	64.38	11	---	23	53.06
12	---	24	62.06	12	---	24	57.72
Max	68.66						
Min	52.19						
Avg	60.06						

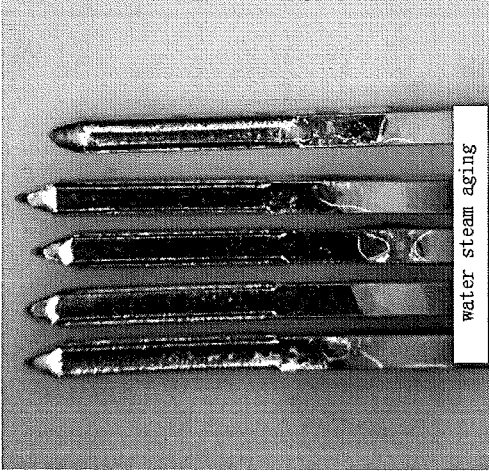
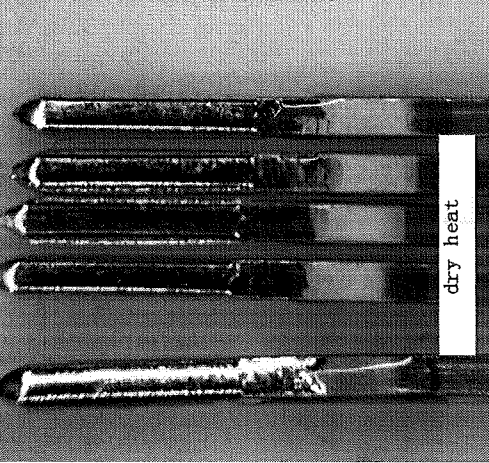
No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample3 unit:N		Left(Black)				Right(Grey)			
pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force	pin No.	Pin retention force
1	---	13	---	1	47.75	13	52.72		
2	---	14	---	2	49.16	14	66.03		
3	---	15	---	3	52.91	15	58.47		
4	---	16	---	4	53.56	16	54.97		
5	---	17	---	5	57.16	17	63.06		
6	---	18	---	6	58.13	18	61.84		
7	63.13	19	62.78	7	---	19	---		
8	53.91	20	61.09	8	---	20	---		
9	57.25	21	65.66	9	---	21	---		
10	58.22	22	60.72	10	---	22	---		
11	54.00	23	63.97	11	---	23	---		
12	54.38	24	64.25	12	---	24	---		
Max									
Min									
Avg									
					66.03				
					47.75				
					58.13				

Group 5: Confirmation of product, Solderability test		Part Number/Date receive	Remarks
	Test Sample	2-953818-6	Pin
	5(1)—5(10)	2-953818-7	Pin

5.1	Confirmation of product	\$3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product	0/20 Samples: 5(1)—5(20)	Products meet requirements.
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No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
5.2	Solderability test	§3.5.9	<p>50% samples: 1h water steam aging according to IEC 60068-2-20, 4.1.1 method 1a;</p> <p>50% samples: 4h dry heat according to IEC 60068-2-20, 4.1.1, method 3a, T=155°C</p> <p>Solder: SnPb(Pb:37-40%);</p> <p>Solder bath temperature=235°C±3°C,</p> <p>Time for immersion=3.0s±0.3s;</p> <p>Depth of immersion according to IEC 60068-2-20, 5.2.3</p> <p>Additional treatment: 1-2h storage at ambient temperature</p>	drawing and Application Specification	0/20 Samples: 5(1)—5(20)	Products meet requirements. see example photos below:

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
5.3	Confirmation of product	§3.5.1	 <p>water steam aging</p>	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/20 Samples: 5(1)—5(20)	 <p>dry heat</p>
			Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification		Products meet requirements.

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Group 6: Confirmation of product, Voltage drop, Vibration test						
	Test Sample	Part Number/Date receive				
		2137044-3				
	6(1)—6(3)	284714-2 + 284224-2				
		284714-1 + 284224-1				
		48P header				
		24P plug coding A				
		24P plug coding B				

6.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 6(1)—6(3)	Products meet requirements.
6.2	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp temperature becomes stabilized	Rc<8mV/A , After ageing test: Δ Rc<5 mV/A	0/3 Samples: 6(1)—6(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	3.21	13	---	1	3.29	13	---
2	3.09	14	---	2	3.23	14	---
3	3.46	15	---	3	3.10	15	---
4	3.18	16	---	4	2.75	16	---
5	2.92	17	---	5	2.86	17	---
6	3.01	18	---	6	3.06	18	---
7	3.05	19	---	7	2.66	19	---
8	3.06	20	---	8	2.88	20	---
9	2.90	21	---	9	3.13	21	---
10	2.84	22	---	10	3.10	22	---
11	3.00	23	---	11	2.84	23	---
12	3.65	24	---	12	3.42	24	---
Max							3.65
Min							2.66
Avg							3.07

Sample2 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	3.57	1	---	13	3.66
2	---	14	3.09	2	---	14	3.32
3	---	15	2.93	3	---	15	3.52
4	---	16	3.05	4	---	16	3.31
5	---	17	3.03	5	---	17	2.98
6	---	18	3.13	6	---	18	3.15
7	---	19	3.19	7	---	19	3.20
8	---	20	3.14	8	---	20	3.08
9	---	21	3.19	9	---	21	3.34
10	---	22	3.15	10	---	22	3.31
11	---	23	3.16	11	---	23	3.28

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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12	—	24	2.87	12	—	24	2.98
Max			3.66				
Min			2.87				
Avg			3.19				

Sample3 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	—	13	—	3.02	13	3.65
2	—	14	—	3.39	14	2.98
3	—	15	—	3.06	15	3.03
4	—	16	—	3.10	16	3.58
5	—	17	—	3.25	17	3.16
6	—	18	—	2.88	18	2.86
7	3.17	19	3.17	—	19	—
8	3.10	20	3.36	—	20	—
9	3.50	21	3.24	—	21	—
10	3.40	22	3.36	—	22	—
11	3.22	23	2.86	—	23	—
12	3.60	24	3.10	—	24	—
Max					3.65	
Min					2.86	
Avg					3.21	

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																
6.3	Vibration test	3.5.10	Vibration shall be 8 hours in each of the three mutually perpendicular axes (X,Y,Z) Vibration profile: <table border="1" data-bbox="480 1301 647 1514"> <thead> <tr> <th>Frequency (Hz)</th> <th>Power Spectral Density (G²/Hz)</th> </tr> </thead> <tbody> <tr><td>5.0</td><td>0.0200</td></tr> <tr><td>15.9</td><td>0.4800</td></tr> <tr><td>77.5</td><td>0.0300</td></tr> <tr><td>45.0</td><td>0.0200</td></tr> <tr><td>30.0</td><td>0.0185</td></tr> <tr><td>20.0</td><td>0.0153</td></tr> <tr><td>100.0</td><td>0.0502</td></tr> </tbody> </table> G _{RMS} = 1.21	Frequency (Hz)	Power Spectral Density (G ² /Hz)	5.0	0.0200	15.9	0.4800	77.5	0.0300	45.0	0.0200	30.0	0.0185	20.0	0.0153	100.0	0.0502	Appearance accepts: no deterioration, cracks deformities, etc. In vibration test monitoring for impermissible. No electrical discontinuity greater than 7 Ω for 1us. (Series circuit with all terminals in one cavity.)	0/3 Samples: 6(1)—6(3)	Products meet requirements.
Frequency (Hz)	Power Spectral Density (G ² /Hz)																					
5.0	0.0200																					
15.9	0.4800																					
77.5	0.0300																					
45.0	0.0200																					
30.0	0.0185																					
20.0	0.0153																					
100.0	0.0502																					
6.4	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc<8mV/A, After ageing test: Δ Rc<5 mV/A	0/3 Samples: 6(1)—6(3)	See the detail results as below																

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	3.81	13	---	1	3.00	13	---
2	4.40	14	---	2	3.26	14	---
3	4.19	15	---	3	3.11	15	---
4	4.46	16	---	4	3.00	16	---
5	3.49	17	---	5	3.50	17	---
6	3.85	18	---	6	3.71	18	---
7	3.70	19	---	7	3.16	19	---
8	3.15	20	---	8	3.46	20	---
9	3.30	21	---	9	3.02	21	---
10	3.39	22	---	10	3.17	22	---
11	3.26	23	---	11	3.78	23	---
12	3.69	24	---	12	3.65	24	---
Max							4.46
Min							3.00
Avg							3.52

Sample2 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	4.01	1	---	13	4.44
2	---	14	3.50	2	---	14	3.80
3	---	15	3.56	3	---	15	3.70
4	---	16	3.31	4	---	16	3.78
5	---	17	3.39	5	---	17	3.64
6	---	18	3.33	6	---	18	3.50
7	---	19	3.45	7	---	19	3.51
8	---	20	3.47	8	---	20	3.43
9	---	21	3.16	9	---	21	3.69
10	---	22	3.68	10	---	22	3.75
11	---	23	3.47	11	---	23	3.74

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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12	—	24	3.26	12	—	24	3.95
Max			4.44				
Min			3.16				
Avg			3.61				

Sample3 unit: mV/A

pin No.	Left (Black)			Right (Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	—	13	—	3.81	13	4.09
2	—	14	—	4.00	14	3.96
3	—	15	—	3.56	15	3.53
4	—	16	—	3.81	16	4.14
5	—	17	—	3.79	17	3.44
6	—	18	—	3.43	18	3.10
7	4.14	19	3.73	—	19	—
8	3.90	20	4.10	—	20	—
9	3.93	21	4.15	—	21	—
10	3.86	22	3.61	—	22	—
11	3.89	23	3.48	—	23	—
12	3.98	24	3.54	—	24	—
Max			4.15			
Min			3.10			
Avg			3.79			

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
6.5	Confirmation of product	§3.5.1	Visually and functionally inspection.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 6(1)—6(3)	Products meet requirements.

Group 7: Confirmation of product, Voltage drop, High temperature endurance test, Dielectric withstanding voltage, Insulation resistance

Test Sample	Part Number/Date receive	Remarks
	2137044-3	48P header
7(1)—7(3)	284714-2 + 284224-2	24P plug coding A
	284714-1 + 284224-1	24P plug coding B

7.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 7(1)—7(3)	Products meet requirements.
7.2	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after	Rc<8mV/A , After ageing test: $\Delta Rc < 5 \text{ mV/A}$	0/3 Samples: 7(1)—7(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
6	—	18	3.45	6	18	3.10
7	—	19	3.51	7	19	3.00
8	—	20	3.44	8	20	2.97
9	—	21	3.59	9	21	3.37
10	—	22	3.69	10	22	3.16
11	—	23	3.68	11	23	3.00
12	—	24	3.27	12	24	2.87
Max			3.71			
Min			2.87			
Avg			3.36			

Sample3 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	pin No.	voltage	pin No.
1	—	13	—	1	3.57	13
2	—	14	—	2	3.70	14
3	—	15	—	3	3.43	15
4	—	16	—	4	2.97	16
5	—	17	—	5	3.41	17
6	—	18	—	6	3.50	18
7	3.33	19	3.57	7	—	19
8	3.16	20	3.49	8	—	20
9	2.82	21	3.23	9	—	21
10	2.96	22	3.67	10	—	22
11	3.13	23	3.29	11	—	23
12	3.40	24	3.36	12	—	24
Max			3.70			
Min			2.82			
Avg			3.31			

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
7.3	High temperature endurance test	§3.5.12	Connector is stored in 100 °C for 504h. Mating with female connector and load with 3A current	Appearance accepts: no deterioration, cracks deformities, etc.	0/10 Samples: 7(1)—7(3)	Products meet requirements.
7.4	Dielectric Withstanding Voltage	§3.5.5	Measured applying $\geq 1000V$ adjacent connector circuits of mated connector. Test condition: $f= 50 \text{ Hz}$, $t \geq 1 \text{ minute}$,	no breakdown, disruptive and creeping discharge or flashover.	0/3 Samples: 7(1)—7(3)	Products meet requirements.

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
7.5	Insulation Resistance	§3.5.6	Test condition: U=500V (DC), t ≥ 2s Measured after applying 500 ± 5V to adjacent connector.	R ≥ 100MΩ	0/3 Samples: 7(1)—7(3)	R ≥ 10 ¹¹ Ω Products meet requirements.
7.6	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc < 8mV/A, After ageing test: Δ Rc < 5 mV/A	0/3 Samples: 7(1)—7(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	4.68	13	---	4.71	13	---
2	4.09	14	---	4.13	14	---
3	4.02	15	---	4.69	15	---
4	5.71	16	---	5.59	16	---
5	4.76	17	---	4.12	17	---
6	4.19	18	---	4.73	18	---
7	4.55	19	---	5.48	19	---
8	4.16	20	---	5.29	20	---
9	4.27	21	---	5.37	21	---
10	4.56	22	---	4.13	22	---
11	4.07	23	---	4.12	23	---
12	4.21	24	---	4.25	24	---
Max	5.71					
Min	4.02					
Avg	4.58					

Sample2 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	---	13	4.66	---	13	5.26
2	---	14	4.56	---	14	5.26
3	---	15	5.40	---	15	4.89
4	---	16	5.47	---	16	5.86
5	---	17	4.73	---	17	4.27
6	---	18	4.79	---	18	4.40
7	---	19	4.98	---	19	4.22
8	---	20	4.23	---	20	4.38
9	---	21	4.36	---	21	4.19
10	---	22	4.62	---	22	4.25

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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11	—	23	5.17	11	—	23	4.20
12	—	24	4.36	12	—	24	4.32
Max	5.86						
Min	4.19						
Avg	4.70						

Sample3 unit: mV/A

pin No.	Left (Black)				Right(Grey)			
	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.
1	—	13	—	1	5.86	13	4.40	4.40
2	—	14	—	2	4.92	14	4.65	4.65
3	—	15	—	3	5.02	15	5.65	5.65
4	—	16	—	4	4.53	16	4.02	4.02
5	—	17	—	5	4.35	17	5.31	5.31
6	—	18	—	6	4.61	18	4.47	4.47
7	4.36	19	4.06	7	—	19	—	—
8	4.62	20	4.20	8	—	20	—	—
9	4.50	21	4.06	9	—	21	—	—
10	4.58	22	4.39	10	—	22	—	—
11	4.81	23	4.01	11	—	23	—	—
12	4.73	24	4.31	12	—	24	—	—
Max	5.86							
Min	4.01							
Avg	4.60							

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
7.7	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 7(1)—7(3)	Products meet requirements.

Group 8: Confirmation of product, Voltage drop, Temperature Rising						
Test Sample		Remarks				
		48P header				
8(1)—8(3)		24P plug coding A				
		24P plug coding B				

8.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 8(1)—8(3)	Products meet requirements.
8.2	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after	Rc<8mV/A, After ageing test: Δ Rc<5 mV/A	0/3 Samples: 8(1)—8(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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			temperature becomes stabilized			
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Sample1 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	pin No.	voltage	pin No.
1	3.51	13	---	1	3.65	13
2	3.14	14	---	2	3.38	14
3	3.35	15	---	3	3.46	15
4	3.74	16	---	4	2.88	16
5	3.39	17	---	5	3.14	17
6	3.46	18	---	6	2.90	18
7	3.60	19	---	7	2.86	19
8	2.97	20	---	8	2.88	20
9	3.19	21	---	9	3.00	21
10	3.32	22	---	10	2.90	22
11	3.37	23	---	11	3.16	23
12	3.47	24	---	12	3.14	24
Max	3.74					
Min	2.86					
Avg	3.24					

Sample2 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	pin No.	voltage	pin No.
1	---	13	3.48	1	---	13
2	---	14	3.60	2	---	14
3	---	15	3.37	3	---	15
4	---	16	3.40	4	---	16
5	---	17	3.43	5	---	17

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
6	—	18	3.67	6	18	3.42
7	—	19	3.31	7	19	3.53
8	—	20	2.94	8	20	3.11
9	—	21	3.56	9	21	3.32
10	—	22	3.58	10	22	3.25
11	—	23	3.22	11	23	3.20
12	—	24	3.56	12	24	3.35
Max	3.67					
Min	2.94					
Avg	3.40					

Sample3 unit: mV/A

pin No.	Left (Black)		Right(Grey)	
	voltage	pin No.	voltage	pin No.
1	—	13	3.14	13
2	—	14	3.27	14
3	—	15	3.51	15
4	—	16	3.57	16
5	—	17	3.34	17
6	—	18	3.16	18
7	3.58	19	—	19
8	3.66	20	—	20
9	3.64	21	—	21
10	3.29	22	—	22
11	3.39	23	—	23
12	3.40	24	—	24
Max	3.66			
Min	2.81			
Avg	3.32			

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
8.3	Temperature Rising	§3.5.11	The temperature of pins and contacts of connection system are measured after applying average current: 3A.	Acceptance Criteria: (1) The measured temperature of the pin and terminal must not exceed a 55 °C rise over ambient. (2) Meet the requirements of 3.5.7.	0/3 Samples: 8(1)—8(3)	Products meet requirements.
8.4	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc<8mV/A , After ageing test: $\Delta Rc < 5 \text{ mV/A}$	0/3 Samples: 8(1)—8(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample1 unit: mV/A								
Left (Black)			Right(Grey)					
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage	
1	3.61	13	---	1	3.93	13	---	
2	3.34	14	---	2	3.96	14	---	
3	3.65	15	---	3	3.92	15	---	
4	3.90	16	---	4	3.88	16	---	
5	3.59	17	---	5	3.54	17	---	
6	3.66	18	---	6	3.60	18	---	
7	3.90	19	---	7	3.56	19	---	
8	3.55	20	---	8	3.65	20	---	
9	3.49	21	---	9	3.88	21	---	
10	3.53	22	---	10	3.79	22	---	
11	3.64	23	---	11	3.76	23	---	
12	3.99	24	---	12	3.54	24	---	
Max							3.99	
Min							3.34	
Avg							3.70	

Sample2 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	3.58	1	---	13	3.91
2	---	14	3.67	2	---	14	3.69
3	---	15	3.95	3	---	15	3.71
4	---	16	3.90	4	---	16	3.75
5	---	17	3.73	5	---	17	3.98
6	---	18	3.81	6	---	18	3.68
7	---	19	3.91	7	---	19	3.94
8	---	20	3.83	8	---	20	3.93
9	---	21	3.84	9	---	21	3.65
10	---	22	3.89	10	---	22	3.59
11	---	23	3.78	11	---	23	3.41

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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12	—	24	3.87	12	—	24	3.92
Max			3.98				
Min			3.41				
Avg			3.79				

Sample3 unit: mV/A

pin No.	Left (Black)			Right(Grey)		
	voltage	pin No.	voltage	voltage	pin No.	voltage
1	—	13	—	3.64	13	3.90
2	—	14	—	3.75	14	3.87
3	—	15	—	3.81	15	3.66
4	—	16	—	3.63	16	3.85
5	—	17	—	3.47	17	3.77
6	—	18	—	3.63	18	3.74
7	3.78	19	3.84	—	19	—
8	3.86	20	3.74	—	20	—
9	3.84	21	3.51	—	21	—
10	3.59	22	3.74	—	22	—
11	3.69	23	3.65	—	23	—
12	3.92	24	3.72	—	24	—
Max			3.92			
Min			3.47			
Avg			3.73			

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
8.5	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of product drawing and Application Specification	0/3 Samples: 8(1)—8(3)	Products meet requirements.

Group 9: Confirmation of product, Voltage drop, Temperature/humidity test, Insulation resistance, Connector mating force, Connector un-mating force

Test Sample	Part Number/Date receive	Remarks
	2137044-3	48P header
9(1)—9(3)	284714-2 + 284224-2	24P plug coding A
	284714-1 + 284224-1	24P plug coding B

9.1	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 9(1)—9(3)	Products meet requirements.
9.2	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp	Rc<8mV/A , After ageing test: $\Delta Rc < 5 \text{ mV/A}$	0/3 Samples: 9(1)—9(3)	See the detail results as below

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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			temperature becomes stabilized			
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Sample1 unit: mV/A

Left (Black)			Right(Grey)		
pin No.	pin No.	voltage	pin No.	pin No.	voltage
1	13	3.33	1	13	3.61
2	14	3.41	2	14	3.58
3	15	3.64	3	15	3.51
4	16	3.49	4	16	3.36
5	17	3.73	5	17	3.09
6	18	3.36	6	18	3.23
7	19	3.15	7	19	3.48
8	20	3.32	8	20	2.92
9	21	3.22	9	21	3.32
10	22	3.39	10	22	3.55
11	23	3.26	11	23	3.38
12	24	3.03	12	24	3.01
Max		3.73			
Min		2.92			
avg		3.35			

Sample2 unit: mV/A

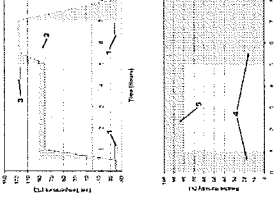
Left (Black)			Right(Grey)		
pin No.	pin No.	voltage	pin No.	pin No.	voltage
1	13	3.27	1	13	3.65
2	14	3.27	2	14	3.61
3	15	3.47	3	15	3.41
4	16	3.21	4	16	3.13
5	17	3.19	5	17	3.15

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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6	—	18	3.27	6	—	18	3.26
7	—	19	3.28	7	—	19	3.35
8	—	20	3.45	8	—	20	2.95
9	—	21	3.02	9	—	21	2.96
10	—	22	3.17	10	—	22	3.06
11	—	23	3.39	11	—	23	3.18
12	—	24	2.98	12	—	24	3.15
Max							3.65
Min							2.95
Avg							3.24

Sample3 unit: mV/A

pin No.	Left (Black)			Right(Grey)			
	voltage	pin No.	voltage	voltage	pin No.	voltage	
1	—	13	—	3.39	13	3.13	
2	—	14	—	3.42	14	3.28	
3	—	15	—	3.41	15	3.51	
4	—	16	—	3.51	16	3.35	
5	—	17	—	3.10	17	3.12	
6	—	18	—	3.49	18	2.92	
7	3.31	19	3.13	—	19	—	
8	3.40	20	3.16	—	20	—	
9	3.20	21	3.42	—	21	—	
10	3.20	22	3.55	—	22	—	
11	3.12	23	3.35	—	23	—	
12	3.24	24	3.34	—	24	—	
Max							3.55
Min							2.92
Avg							3.29

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
9.3	Temperature / humidity test	§3.5.13	Cycle the test samples 40 times using the cycling schedule shown below 	Appearance accepts: no deterioration, cracks deformities, etc.	0/10 Samples: 9(1)—9(3)	Products meet requirements.
9.4	Insulation Resistance	§3.5.6	Test condition: $U=500V$ (DC), $t \geq 2s$ Measured after applying $500 \pm 5V$ to adjacent connector.	$R \geq 100M\Omega$	0/3 Samples: 9(1)—9(3)	$R \geq 10^{11}\Omega$ Products meet requirements.

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																																																																																																																																							
9.5	Voltage drop	§3.5.7	Measured by applying 1A to contacts in mated connectors by probing at 75mm apart from wire crimp after temperature becomes stabilized	Rc<8mV/A, After ageing test: ΔRc<5 mV/A	0/3 Samples: 9(1)—9(3)	See the detail results as below																																																																																																																																							
<p>Sample1 unit: mV/A</p> <table border="1"> <thead> <tr> <th rowspan="2">pin No.</th> <th colspan="3">Left (Black)</th> <th colspan="4">Right(Grey)</th> </tr> <tr> <th>voltage</th> <th>pin No.</th> <th>voltage</th> <th>pin No.</th> <th>voltage</th> <th>pin No.</th> <th>voltage</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7.83</td> <td>13</td> <td>—</td> <td>1</td> <td>4.64</td> <td>13</td> <td>—</td> </tr> <tr> <td>2</td> <td>7.57</td> <td>14</td> <td>—</td> <td>2</td> <td>4.53</td> <td>14</td> <td>—</td> </tr> <tr> <td>3</td> <td>4.48</td> <td>15</td> <td>—</td> <td>3</td> <td>4.90</td> <td>15</td> <td>—</td> </tr> <tr> <td>4</td> <td>4.15</td> <td>16</td> <td>—</td> <td>4</td> <td>4.27</td> <td>16</td> <td>—</td> </tr> <tr> <td>5</td> <td>7.68</td> <td>17</td> <td>—</td> <td>5</td> <td>6.30</td> <td>17</td> <td>—</td> </tr> <tr> <td>6</td> <td>4.32</td> <td>18</td> <td>—</td> <td>6</td> <td>4.26</td> <td>18</td> <td>—</td> </tr> <tr> <td>7</td> <td>4.37</td> <td>19</td> <td>—</td> <td>7</td> <td>4.44</td> <td>19</td> <td>—</td> </tr> <tr> <td>8</td> <td>5.54</td> <td>20</td> <td>—</td> <td>8</td> <td>5.59</td> <td>20</td> <td>—</td> </tr> <tr> <td>9</td> <td>4.23</td> <td>21</td> <td>—</td> <td>9</td> <td>4.45</td> <td>21</td> <td>—</td> </tr> <tr> <td>10</td> <td>4.39</td> <td>22</td> <td>—</td> <td>10</td> <td>4.60</td> <td>22</td> <td>—</td> </tr> <tr> <td>11</td> <td>4.66</td> <td>23</td> <td>—</td> <td>11</td> <td>4.49</td> <td>23</td> <td>—</td> </tr> <tr> <td>12</td> <td>5.75</td> <td>24</td> <td>—</td> <td>12</td> <td>4.35</td> <td>24</td> <td>—</td> </tr> <tr> <td>Max</td> <td colspan="7">7.83</td> </tr> <tr> <td>Min</td> <td colspan="7">4.15</td> </tr> <tr> <td>Avg</td> <td colspan="7">5.07</td> </tr> </tbody> </table>							pin No.	Left (Black)			Right(Grey)				voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage	1	7.83	13	—	1	4.64	13	—	2	7.57	14	—	2	4.53	14	—	3	4.48	15	—	3	4.90	15	—	4	4.15	16	—	4	4.27	16	—	5	7.68	17	—	5	6.30	17	—	6	4.32	18	—	6	4.26	18	—	7	4.37	19	—	7	4.44	19	—	8	5.54	20	—	8	5.59	20	—	9	4.23	21	—	9	4.45	21	—	10	4.39	22	—	10	4.60	22	—	11	4.66	23	—	11	4.49	23	—	12	5.75	24	—	12	4.35	24	—	Max	7.83							Min	4.15							Avg	5.07						
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No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
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Sample2 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	7.17	1	---	13	7.02
2	---	14	7.73	2	---	14	8.36
3	---	15	6.98	3	---	15	5.41
4	---	16	5.99	4	---	16	7.35
5	---	17	7.65	5	---	17	5.39
6	---	18	5.77	6	---	18	4.39
7	---	19	5.83	7	---	19	4.22
8	---	20	4.37	8	---	20	4.29
9	---	21	4.75	9	---	21	4.39
10	---	22	4.37	10	---	22	4.31
11	---	23	4.56	11	---	23	7.46
12	---	24	4.34	12	---	24	5.13
Max							8.36
Min							4.22
Avg							5.72

Sample3 unit: mV/A							
Left (Black)			Right(Grey)				
pin No.	voltage	pin No.	voltage	pin No.	voltage	pin No.	voltage
1	---	13	---	1	5.96	13	8.07
2	---	14	---	2	6.16	14	6.39
3	---	15	---	3	4.77	15	7.11
4	---	16	---	4	4.63	16	4.70
5	---	17	---	5	5.95	17	5.72
6	---	18	---	6	4.78	18	4.71
7	4.30	19	4.66	7	---	19	---
8	4.30	20	5.61	8	---	20	---
9	4.41	21	4.20	9	---	21	---
10	5.29	22	4.32	10	---	22	---
11	4.39	23	4.78	11	---	23	---

No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks																					
	12	5.03	24	4.49	12	24	—																				
	Max		8.07																								
	Min		4.20																								
	Avg		5.20																								
9.6	Connector mating force	§3.5.3	Connectors to be mated together by applying a measured force at speed 50 mm/min to slide fully seated and locked at the first time.	Mating force < 70N	0/3 Samples: 9(1)—9(3)	Products meet requirements. <table border="1" data-bbox="635 481 885 817"> <thead> <tr> <th>sample</th> <th>mating force left</th> <th>unit:right</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>16.1</td> <td>16.0</td> </tr> <tr> <td>2</td> <td>13.3</td> <td>17.0</td> </tr> <tr> <td>3</td> <td>17.3</td> <td>14.7</td> </tr> <tr> <td>Max</td> <td></td> <td>17.3</td> </tr> <tr> <td>Min</td> <td></td> <td>13.3</td> </tr> <tr> <td>Avg</td> <td></td> <td>15.7</td> </tr> </tbody> </table>	sample	mating force left	unit:right	1	16.1	16.0	2	13.3	17.0	3	17.3	14.7	Max		17.3	Min		13.3	Avg		15.7
sample	mating force left	unit:right																									
1	16.1	16.0																									
2	13.3	17.0																									
3	17.3	14.7																									
Max		17.3																									
Min		13.3																									
Avg		15.7																									
9.7	Connector un-mating force	§3.5.4	Connectors with primary lock to be unmated by applying a measured force at speed 50 mm/min to slide out at the first time.	Un-mating Force < 70N	0/3 Samples: 9(1)—9(3)	Products meet requirements. <table border="1" data-bbox="989 448 1240 817"> <thead> <tr> <th>sample</th> <th>un-mating force left</th> <th>unit:right</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>13.0</td> <td>17.8</td> </tr> <tr> <td>2</td> <td>16.6</td> <td>16.1</td> </tr> <tr> <td>3</td> <td>15.2</td> <td>15.6</td> </tr> <tr> <td>Max</td> <td></td> <td>17.8</td> </tr> <tr> <td>Min</td> <td></td> <td>13.0</td> </tr> <tr> <td>Avg</td> <td></td> <td>15.7</td> </tr> </tbody> </table>	sample	un-mating force left	unit:right	1	13.0	17.8	2	16.6	16.1	3	15.2	15.6	Max		17.8	Min		13.0	Avg		15.7
sample	un-mating force left	unit:right																									
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No.	Test Item	Test Spec. no.	Description of test method	Requirements	Defects / Total	Results / Remarks
9.8	Confirmation of product	§3.5.1	Visually, Dimensionally and Functionally inspected per applicable inspection plan.	Product shall be conforming to the requirements of applicable product drawing and Application Specification	0/3 Samples: 9(1)—9(3)	Products meet requirements.