



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE
ENGLISH

【 1 . 適用範囲 SCOPE】

本仕様書は、 _____ 殿 に納入する。
 _____ 2mm ピッチプリント基板用コネクタ _____ について規定する。

This specification covers the 2mm Pitch Wire to Board I.D.T. Connector series.

無鉛
LEAD FREE

【 2 . 製品名称及び型番 PRODUCT NAME AND PART NUMBER】

製品名称 Product Name	製品型番 Part Number
ハウジングアッセンブリ Housing Assembly	5 2 4 8 4 - * * 1 *
ウェハーアッセンブリ (ストレート) Wafer Assembly (Straight)	5 3 3 2 4 - * * * * 5 3 4 0 1 - * * * *
ウェハーアッセンブリ (ライトアングル) Wafer Assembly (Right Angle)	5 3 3 2 5 - * * * *

* : 図面参照
Refer to the drawing

【 3 . 定格及び適用電線 RATINGS AND APPLICABLE WIRE】

項目 Item	規 格 Standard	
最大許容電圧 Rated Voltage(MAX.)	125 V	
最大許容電流 及び適用電線 Rated Current(MAX.) and Applicable Wires	AWG #26 (UL1061, UL1571)	1.5 A
	AWG #28 (UL1061, UL1571)	1.0 A
使用温度範囲 Ambient temperature Range	- 4 0 ° C ~ + 1 0 5 ° C * 1	

[A C (実効値 rms) / D C]
被覆外径 : φ 0.85 ~ φ 1.05 mm maximum
Insulation O.D.

*1 通電による温度上昇分も含む。

Including terminal temperature rise.

REV.	A	A	A	A	A	A	A	A	A												
SHEET	1	2	3	4	5	6	7	8	9												
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A	新規作成 RELEASED J2003-2361 '03/03/17 A.IDA									2mm PITCH WIRE TO BOARD CONNECTOR 製品仕様書											
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DESIGN CONTROL J						STATUS				WRITTEN BY: A.IDA	CHECKED BY: J.MIYAZAWA	APPROVED BY: YO.ITO	DATE: YR/MO/DAY 2003/03/17								

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【 4 . 性 能 PERFORMANCE 】

4 - 1 . 電 氣 的 性 能 Electrical Performance

項 目 Item		条 件 Test Condition	規 格 Requirement
4-1-1	接 触 抵 抗 Contact Resistance	コネクタを嵌合させ、開放電圧 20mV 以下、短絡電流 10mA 以下にて測定する。 (JIS C5402 5.4) Mate connectors, measure by dry circuit, 20mV MAX., 10mA MAX. (JIS C5402 5.4)	20 milliohms maximum
4-1-2	絶 縁 抵 抗 Insulation Resistance	コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に DC500V を印加し測定する。 (JIS C5402 5.2 / MIL-STD-202 試験法 302) Mate connectors, measure by applying 500V DC between adjacent terminal and ground. (JIS C5402 5.2 / MIL-STD-202 Method 302)	1000 Megaohms minimum
4-1-3	耐 電 圧 Voltage Proof	コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に、AC500V (実効値) を 1 分間 印加する。 (JIS C5402 5.1 / MIL-STD-202 試験法 301) Mate connectors, apply 500V AC (r.m.s.) for 1 minute between adjacent terminal and ground. (JIS C5402 5.1 / MIL-STD-202 Method 301)	異状なきこと No Breakdown
4-1-4	圧接部接触抵抗 Contact Resistance on I.D.T. Portion	適合電線を圧接接続し、開放電圧 20mV 以下、短絡電流 10mA にて測定する。 Terminate the applicable wire on to the terminal, measure by dry circuit, 20mV MAX., 10mA.	10 milliohms maximum

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4-2. 機械的性能 Mechanical Performance

項目 Item		条件 Test Condition		規格 Requirement	
4-2-1	挿入力及び抜去力 Insertion and Withdrawal Force	毎分 25± 3 mm の速さで、挿入、抜去を行う。 Insert and withdraw connectors at the speed rate of 25± 3 mm per minute.		第 6 項参照 See para 6.	
4-2-2	圧接部引張り強度 I.D.T Pull Out Force	適合電線を圧接接続し、毎分 25± 3 mm の速さで、電線を引張る。 Apply axial pull out force on the wire at the speed rate of 25± 3 mm pre minute.	軸方向 Axial Direction	AWG#26	19.6 N {2.0 kgf} minimum
				AWG#28	14.7 N {1.5 kgf} minimum
			垂直方向 Vertical Direction	AWG#26	14.7 N {1.5 kgf} minimum
				AWG#28	11.8 N {1.2 kgf} minimum
4-2-3	ピン保持力 Pin Retention Force	毎分 25± 3 mm の速さでピンを軸方向に押す。 Apply axial push force at the speed rate of 25± 3 mm per minute.		9.8 N {1.0 kgf} minimum	

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4-3.その他 Environmental Performance and Others

項目 Item		条件 Test Condition	規格 Requirement	
4-3-1	繰返し挿抜 Repeated Mate/Un-mate	1分間に10回以下の速さで挿入、抜去を30回繰返す。 When mate and un-mated up to 30 cycles repeatedly at a rate of 10 cycles per minute.	接触抵抗 Contact Resistance	40 milliohms maximum
4-3-2	温度上昇 Temperature Rise	コネクタを嵌合させ、最大許容電流を通電しコネクタの温度上昇分を測定する。 (UL 498) Mate connector and measure the temperature rise of contact when the maximum AC rated current is passed. (UL 498)	温度上昇 Temperature Rise	30°C maximum
4-3-3	耐振動性 Vibration Exposure	DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な3方向に掃引割合毎分10~55~10 Hz/分、全振幅 1.5mm の振動を各2時間加える。 (MIL-STD-202試験法 201) Mate connectors and subject to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1 mA during the test. Amplitude : 1.5 mm P-P Frequency : 10-55-10 Hz in 1 minute. Duration : 2 hours in each of X-, Y-, Z- axes. (MIL-STD-202, Method 201)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
			瞬断 Discontinuity	1 microsec. maximum
4-3-4	耐衝撃性 Mechanical shock	DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な6方向に490 m/s ² (50G) の衝撃を各3回加える。 (JIS C0041/MIL-STD-202 試験法 213) Mate connectors and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (Total of 18 shocks) Test pulse : Half Sine Peak value : 490 m/s ² (50 G) Duration : 11 ms (JIS C0041/MIL-STD-202 Method 213)	外観 Appearance	異常なきこと No Dmage
			接触抵抗 Contact Resistance	40 milliohms maximum
			瞬断 Discontinuity	1 microsec. maximum

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Environmental Performance and Others (Continued)

項目 Item		条件 Test Condition	規格 Requirement	
4-3-5	耐熱性 Heat Resistance	コネクタを嵌合させ、105± 2°C の雰囲気中に 96 時間放置後取り出し、1~2 時間室温に放置する。 (JIS C0021/MIL-STD-202 試験法 108) Mate connectors and expose to 105± 2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C0021/MIL-STD-202 Method 108)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
4-3-6	耐寒性 Cold Resistance	コネクタを嵌合させ、-40± 3°C の雰囲気中に 96 時間放置後取り出し、1~2 時間室温に放置する。 (JIS C0020) Mate connectors and expose to -40± 3°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C0020)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
4-3-7	耐湿性 Humidity Exposure	コネクタを嵌合させ、60± 2°C、相対湿度 90~95%の雰囲気中に96時間放置後取り出し、1~2時間室温に放置する。 (JIS C0022/MIL-STD-202 試験法 103) Mate connectors and expose to 60± 2°C , relative humidity 90 to 95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours,after which the specified measurements shall be performed. (JIS C0022/MIL-STD-202 Method 103)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
			耐電圧 Voltage Proof	4-1-3項満足のこと Must meet 4-1-3
			絶縁抵抗 Insulation Resistance	100 Megaohms minimum

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Environmental Performance and Others (Continued)

項 目 Item		条 件 Test Condition	規 格 Requirement	
4-3-8	温度サイクル Temperature Cycling	コネクタを嵌合させ、-55℃に30分、+105℃に30分、これを1サイクルとし、5サイクル繰り返す。但し、温度移行時間は5分以内とする。試験後1~2時間室温に放置する。 (JIS C0025) Mate connectors and subject to the following conditions for 5 cycles. Upon completion of the exposure period, the specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 1 cycle a) -55℃ . . . 30 minutes b) +105℃ . . . 30 minutes Transit time shall be within 5 minutes. (JIS C0025)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
4-3-9	塩水噴霧 Salt Spray Exposure	コネクタを嵌合させ、35± 2℃にて5± 1%重量比の塩水を48± 4時間噴霧し、試験後常温で水洗いした後、室温で乾燥させる。 (JIS C0023/MIL-STD-202 試験法 101) Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified measurements shall be performed. NaCl solution Concentration : 5± 1% Spray time : 48± 4 hours Ambient temperature : 35± 2℃ (JIS C0023/MIL-STD-202 Method 101)	外観 Appearance	著しい腐食なきこと There shall be no remarkable corrosion
			接触抵抗 Contact Resistance	40 milliohms maximum

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Environmental Performance and Others (Continued)

項目 Item		条件 Test Condition	規格 Requirement	
4-3-10	亜硫酸ガス SO ₂ Gas	コネクタを嵌合させ、40± 2℃にて 50± 5 ppm の亜硫酸ガス中に、24時間放 置する。 Mate connectors and expose to 50± 5 ppm SO ₂ Gas, ambient temperature 40± 2 °C for 24 hours.	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohms maximum
4-3-11	半田付け性 Solderability	ターミナルまたはピンをフラックスに浸 し、本体取り付け基準面より1.2 mm 迄、 245±3 ℃の半田に2~3秒 浸す。 使用半田：Sn-3Ag-0.5Cu Soldering Time: 2~3 second Solder Temperature: 245±3 ℃ Solder: Sn-3Ag-0.5Cu	濡れ性 Solder Wetting	浸漬面積の 90% 以上 90% of immersed area must show no voids, pin holes
4-3-12	半田耐熱性 Resistance to Soldering Heat	<u>フロー半田 Flow soldering method</u> ターミナルまたはピンを本体取り付け基 準面より1.2 mm 迄、260±5℃の半田に 5±0.5秒 浸す。 Terminal into melted solder as follows. Soldering Time: 5±0.5 second Solder Temperature: 260±5 ℃	外観 Appearance	端子ガタ、 割れ等 異常なきこと No Damage
		<u>手半田 Soldering iron method</u> 半田付け部を370 ~ 400℃の半田ゴテにて 5秒MAX.異常加圧のないように加熱する Bit Time: 5 second MAX. Bit Temperature: 370 ~ 400 ℃ Without too much pressure to the terminal.		

() : 参考規格 Reference Standard

{ } : 参考単位 Reference Unit

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図面参照 Refer to the drawing.

【 6 . 挿入力及び抜去力 INSERTION/WITHDRAWAL FORCE 】

極数 No. of Circuit	単位 Unit	挿入力 (最大値) Insertion Force (maximum)			抜去力 (最小値) Withdrawal (minimum)		
		初回 1st	6回目 6th	30回目 30th	初回 1st	6回目 6th	30回目 30th
		2	N {kgf}	35.2 {3.6}	33.3 {3.4}	33.3 {3.4}	4.5 {0.45}
3	N {kgf}	43.1 {4.4}	40.1 {4.1}	40.1 {4.1}	5.4 {0.55}	4.9 {0.50}	4.5 {0.45}
4	N {kgf}	50.9 {5.2}	47.0 {4.8}	47.0 {4.8}	6.9 {0.70}	5.9 {0.60}	4.9 {0.50}
5	N {kgf}	58.8 {6.0}	53.9 {5.5}	53.9 {5.5}	7.9 {0.80}	6.4 {0.65}	5.4 {0.55}
6	N {kgf}	64.6 {6.6}	58.8 {6.0}	58.8 {6.0}	8.9 {0.90}	6.9 {0.70}	5.9 {0.60}
7	N {kgf}	70.5 {7.2}	63.7 {6.5}	63.7 {6.5}	9.8 {1.00}	7.4 {0.75}	6.4 {0.65}
8	N {kgf}	76.4 {7.8}	68.6 {7.0}	68.6 {7.0}	10.8 {1.10}	7.9 {0.80}	6.9 {0.70}
9	N {kgf}	82.3 {8.4}	73.5 {7.5}	73.5 {7.5}	11.8 {1.20}	8.4 {0.85}	7.4 {0.75}
10	N {kgf}	88.2 {9.0}	78.4 {8.0}	78.4 {8.0}	12.8 {1.30}	8.9 {0.90}	7.9 {0.80}
11	N {kgf}	94.0 {9.6}	83.3 {8.5}	83.3 {8.5}	13.8 {1.40}	9.4 {0.95}	8.4 {0.85}
12	N {kgf}	99.9 {10.2}	88.2 {9.0}	88.2 {9.0}	14.7 {1.50}	9.8 {1.00}	8.9 {0.90}
13	N {kgf}	105.8 {10.8}	93.1 {9.5}	93.1 {9.5}	15.7 {1.60}	10.3 {1.05}	9.4 {0.95}
14	N {kgf}	111.7 {11.4}	98.0 {10.0}	98.0 {10.0}	16.7 {1.70}	10.8 {1.10}	9.8 {1.00}
15	N {kgf}	117.6 {12.0}	102.9 {10.5}	102.9 {10.5}	17.7 {1.80}	11.3 {1.15}	10.3 {1.05}

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