



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 ~ + 1 0 5 *1	

[A C (実効値 rms) / D C]
被覆外径 : 0.85 ~ 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											
REVISE ON PC ONLY										TITLE:										
A	新規作成 RELEASED J2003-2361 '03/03/17 A.IDA									2mm PITCH WIRE TO BOARD CONNECTOR 製品仕様書										
	DESCRIPTION										THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									
DESIGN CONTROL	STATUS					WRITTEN BY:	CHECKED BY:	APPROVED BY	DATE: YR/MO/DAY											
J						A.IDA	J.MIYAZAWA	YO.ITO	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 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 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 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 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 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、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, 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 Apperance	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 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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【 5 . 外觀形状、寸法及び材質 PRODUCT SHAPE, DIMENSIONS AND MATERIALS 】

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}	4.0 {0.40}	3.5 {0.35}
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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