



PRODUCT SPECIFICATION



LANGUAGE
JAPANESE
ENGLISH

【1. 適用範囲 SCOPE】

本仕様書は、_____ 殿 に納入する
_____ 2.0 mm ピッチ 基板対基板用 コネクタ _____ について規定する。
This specification covers the 2.0 mm PITCH BOARD TO BOARD CONNECTOR series.

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

製品名称 Product Name	無鉛 LEAD FREE	製品型番 Part Number
ハウジング アッセンブリ Housing Assembly	無鉛 LEAD FREE	5 2 4 1 8 - * * 1 0
5 2 4 1 8 - * * 1 0 ステック梱包 Stick Tape Package for 52418-**10	無鉛 LEAD FREE	5 2 4 1 8 - * * 9 0
ウェハー アッセンブリ (キंक付、トレイ) Wafer Assembly (WITH KINK, TRAY)	無鉛 LEAD FREE	5 3 2 9 0 - * * 8 *
ウェハー アッセンブリ (キंक付、ポリ袋) Wafer Assembly (WITH KINK, POLYBAG)	無鉛 LEAD FREE	5 3 2 9 0 - * * 4 *
5 3 2 9 0 - * * 8 * ステック梱包 Stick Tape Package for 53290-**19	無鉛 LEAD FREE	5 3 2 9 0 - * * 7 0
ウェハー アッセンブリ (キंक無、トレイ) Wafer Assembly (WITHOUT KINK, TRAY)	無鉛 LEAD FREE	5 3 2 9 0 - * * 6 0
ウェハー アッセンブリ (キंक無、ポリ袋) Wafer Assembly (WITHOUT KINK, POLYBAG)	無鉛 LEAD FREE	5 3 2 9 0 - * * 5 0
5 3 2 9 0 - * * 6 0 ステック梱包 Stick Tape Package for 53290-**60	無鉛 LEAD FREE	5 3 2 9 0 - * * 7 1

** : 極数 (添付図参照)

** : CKTS (Refer to the drawing)

REV.	A	B	C	D													
SHEET	1~8	1~8	1~8	1~9													
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D	変更 REVISED J2005-2460 '05/02/23 N.AIDA					-LEAD FREE- 製品仕様書											
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REV.	DESCRIPTION					WRITTEN BY: E.SUZUKI	CHECKED BY: K.TOJO	APPROVED BY: N.UKITA	DATE : YR/MO/DAY 2004/10/14								
DESIGN CONTROL J							STATUS										
DOCUMENT NUMBER PS-52418-003												FILE NAME PS52418003.doc	SHEET 1 OF 9				



【3. 定 格 RATINGS】

項 目 Item	規 格 Standard	
最大許容電圧 Rated Voltage (MAX.)	125 V	[AC (実効値 rms) / DC]
最大許容電流 Rated Current (MAX.)	1.5 A	
使用温度範囲 Ambient Temperature Range	-40°C ~ + 105°C ^{*1}	

*1 : 通電による温度上昇分も含む。

*1 : Including terminal temperature rise.

【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 にて測定する。 (JIS C5402 5.4) Mate connectors and measured by dry circuit, 20mV MAX., 10mA. (JIS C5402 5.4)	20 milliohm MAX.
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、DC 500V を印加し測定する。 (JIS C5402 5.2/MIL-STD-202 試験法 302) Mate connectors and apply 500V DC between adjacent terminal or ground. (JIS C5402 5.2/MIL-STD-202 Method 302)	1000 Megohm MIN.
4-1-3	耐 電 圧 Dielectric Strength	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、AC(rms) 500V (実効値) を 1分間 印加する。 (JIS C5402 5.1/MIL-STD-202 試験法 301) Mate connectors and apply 500V AC(rms) for 1 minute between adjacent terminal or ground. (JIS C5402 5.1/MIL-STD-202 Method 301)	異状なきこと No Breakdown

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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±3mm の速さで挿入、抜去を行う。 Insert and withdraw connectors at the speed rate of 25±3 mm/minute.	第6項参照 Refer to paragraph 6
4-2-2 ピン保持力 Pin Retention Force	毎分 25±3mm の速さでピンを軸方向に押す。 Apply axial pull out force at the speed rate of 25±3 mm/minute.	4.9N {0.5 kgf} MIN.

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 Insertion / Withdrawal	1分間 10回 以下の速さで挿入、抜去を 30回 繰返す。 When mated up to 30cycles repeatedly by the rate of 10 cycles per minute.	接触抵抗 Contact Resistance	40 milliohm MAX.
4-3-2 温度上昇 Temperature Rise	コネクタを嵌合させ、最大許容電流を通电し、 コネクタの温度上昇分を測定する。 (UL 498) Connectors shall be mated and measure the temperature rise of contact, when the maximum rated current is flowed. (UL 498)	温度上昇 Temperature Rise	30 °C MAX.
4-3-3 耐振動性 Vibration	DC 1mA 通电状態にて、嵌合軸を含む互いに 垂直な 3方向 に掃引割合 10~55~10 Hz/分、 全振幅 1.5mm の振動を 各2時間 加える。 (JIS 60068-2-6/MIL-STD-202 試験法 201) Connectors shall be mated and subjected to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during test. Amplitude : 1.5mm P-P Frequency : 10~55~10 Hz Shall be traversed in 1 minute. (JIS 60068-2-6/MIL-STD-202 Method 201)	外観 Appearance	異状なきこと No Damage
		接触抵抗 Contact Resistance	40 milliohm MAX.
		瞬断 Discontinuity	1.0 microsecond MAX.

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項目 Item		条件 Test Condition	規格 Requirement	
4-3-4	耐衝撃性 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 490m/s ² { 50G } の衝撃を各3回 加える。 (JIS C60068-2-27/MIL-STD-202 試験法 213) Connectors shall be mated and subjected to the following shock conditions. 3 shocks shall be applied along the 3 mutually perpendicular axes, with flowing DC 1mA current during the test. (Total of 18 shocks) Test pulse : half sine Peak value : 490m/s ² { 50G } Duration : 11m sec. (JIS C60068-2-27/MIL-STD-202 Method 213)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.
			瞬断 Discontinuity	1.0 microsecond MAX.
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 C60068-2-2/MIL-STD-202 試験法 108) Connectors shall be mated and exposed to the conditions of 105±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at room ambient conditions of 1-2 hours, after which the specified measurement shall be performed. (JIS C60068-2-2MIL-STD-202 Method 108)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.
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 C60068-2-1) Connectors shall be mated and exposed to the conditions of -40±3°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at room ambient conditions of 1-2 hours, after which the specified measurement shall be performed. (JIS C60068-2-1)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.

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項目 Item		条件 Test Condition	規格 Requirement	
4-3-7	耐湿性 Humidity	コネクタを嵌合させ、40±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 C60068-2-3/MIL-STD-202 試験法 103) Connectors shall be mated and exposed to the conditions of 40±2°C relative humidity 90~95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at room ambient conditions of 1-2 hours, after which the specified measurement shall be performed. (JIS C60068-2-3/MIL-STD-202 Method 103)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.
			耐電圧 Dielectric Strength	4-1-3項満足のこと Must meet 4-1-3
			絶縁抵抗 Insulation Resistance	100 Megohm MIN.
4-3-8	温度サイクル Temperature Cycling	コネクタを嵌合させ、-55°Cに30分、+105°Cに30分これを1サイクルとし、5サイクル繰返す。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) Connectors shall be mated and subjected to the following conditions for 5 cycles. Upon completion of the exposure period the test specimens shall be conditioned at room ambient conditions of 1-2 hours, measurement shall be performed. (Transfer time shall be within 5 minutes) 1 cycles a) -55°C 30 minutes b) +105°C 30 minutes (JIS C0025)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.

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項目 Item		条件 Test Condition	規格 Requirement	
4-3-9	塩水噴霧 Salt Spray	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 C60068-2-11/MIL-STD-202 試験法101) Connectors shall be mated and exposed to the following salt mist conditions. At the 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 C60068-2-11/MIL-STD-202 Method 101)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	40 milliohm MAX.
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±5ppmの亜硫酸ガス中に24時間放置する。 Connectors shall be mated and exposed to the conditions of 50±5ppm 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 milliohm MAX.
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、本体の取付け基準面より1.2mm迄、245±3℃の半田に3±0.5秒浸す。 Dip soldertails in flux then, immerse in solder bath at 245±3℃ up to 1.2mm from the bottom of the housing for 3±0.5 sec.	濡れ性 Solder Wetting	浸漬面積の75%以上 75% of immersed area must show no voids, pin holes.

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項目 Item		条件 Test Condition	規格 Requirement	
4-3-12	半田耐熱性 Resistance to Soldering Heat	(ディップの場合) ターミナルまたはピンを本体の取付け基準面より 1.2mm迄、260±5°Cの半田に 5±0.5秒浸す。 <u>Soldering bath method</u> Into the molten solder held at 260±5°C up to 1.2mm from the bottom of the housing. The dwell time shall be 5±0.5 sec.	外 観 Appearance	端子ガタ、割れ等 異状なきこと No Damage
		(手半田時) 370~400°C の半田ゴテにて 最大5秒 加熱する。但し、端ピンに異常な加圧のないこと。 <u>Soldering iron method</u> Solder Time : 5 sec. MAX. Solder Temperature: 370~400°C However, without too much pressure to the terminal pin.		

() :参考規格 Reference Standard
{ } :参考単位 Reference Unit

【5. 外観形状、寸法及び材質 PRODUCT SHAPE, DIMENSIONS AND MATERIALS】

図面参照 Refer to the drawing.

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

極数 No. of CKT	単位 UNIT	挿入力 (最大値) Insertion Force (MAX.)			抜去力 (最小値) Withdrawal Force (MIN.)		
		初回 1st	6回目 6th	30回目 30th	初回 1st	6回目 6th	30回目 30th
3	N Kgf	24.5 {2.50}	19.6 {2.00}	19.6 {2.00}	11.8 {1.20}	9.8 {1.00}	9.8 {1.00}
4	N Kgf	28.8 {2.94}	21.9 {2.24}	21.9 {2.24}	12.6 {1.28}	10.4 {1.06}	10.4 {1.06}
5	N Kgf	33.1 {3.38}	24.2 {2.47}	24.2 {2.47}	13.3 {1.35}	11.0 {1.12}	11.0 {1.12}
6	N Kgf	37.4 {3.82}	26.5 {2.71}	26.5 {2.71}	14.0 {1.43}	11.6 {1.18}	11.6 {1.18}
7	N Kgf	41.7 {4.26}	28.8 {2.94}	28.8 {2.94}	14.8 {1.50}	12.2 {1.24}	12.2 {1.24}
8	N Kgf	46.1 {4.71}	31.1 {3.18}	31.1 {3.18}	15.5 {1.58}	12.7 {1.29}	12.7 {1.29}
9	N Kgf	50.5 {5.15}	33.4 {3.41}	33.4 {3.41}	16.3 {1.66}	13.3 {1.35}	13.3 {1.35}
10	N Kgf	54.8 {5.59}	35.6 {3.64}	35.6 {3.64}	17.0 {1.73}	13.9 {1.41}	13.9 {1.41}
11	N Kgf	59.1 {6.03}	38.0 {3.88}	38.0 {3.88}	17.8 {1.81}	14.5 {1.47}	14.5 {1.47}
12	N Kgf	63.4 {6.47}	40.4 {4.12}	40.4 {4.12}	18.5 {1.88}	15.0 {1.53}	15.0 {1.53}
13	N Kgf	67.7 {6.91}	42.6 {4.35}	42.6 {4.35}	19.3 {1.96}	15.6 {1.59}	15.6 {1.59}
14	N Kgf	72.0 {7.35}	45.0 {4.59}	45.0 {4.59}	20.0 {2.04}	16.2 {1.65}	16.2 {1.65}
15	N Kgf	76.3 {7.79}	47.2 {4.82}	47.2 {4.82}	20.7 {2.11}	16.8 {1.71}	16.8 {1.71}
16	N Kgf	80.8 {8.24}	49.6 {5.06}	49.6 {5.06}	21.5 {2.19}	17.3 {1.76}	17.3 {1.76}
17	N Kgf	85.1 {8.68}	51.8 {5.29}	51.8 {5.29}	22.2 {2.26}	17.9 {1.82}	17.9 {1.82}
18	N Kgf	89.4 {9.12}	54.2 {5.53}	54.2 {5.53}	23.0 {2.34}	18.5 {1.88}	18.5 {1.88}
19	N Kgf	93.7 {9.56}	56.4 {5.76}	56.4 {5.76}	23.8 {2.42}	19.1 {1.94}	19.1 {1.94}
20	N Kgf	98.0 {10.00}	58.8 {6.00}	58.8 {6.00}	24.6 {2.50}	19.7 {2.00}	19.7 {2.00}

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A	新規作成 RELEASED	'04/10/14	J2005-1112	E.SUZUKI	K.TOJO
B	変更 REVISED	'04/11/30	J2005-1606	J.SASAMORI	K.TOJO
C	変更 REVISED	'05/01/17	J2005-2021	J.HOSOKAWA	K.TOJO
D	変更 REVISED	'05/02/23	J2005-2460	N.AIDA	K.TOJO

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