



Part No.	YY-5900	PRODUCT SPECIFICATION	Document NO.		SP5900-02
Title	4.2mm(.165") Pitch Wire to Board Connector(Single Row)		Rev.	A0	Page 1 of 5

1. Applicable Standards

- MIL-STD-202 Methods for test of connectors for electronic equipment
- MIL-STD-1344 Test methods for electrical connectors

2. Product & Part Number

Product Name	Product Number
Housing	YY-5700-HS
Terminal	YY-5700-T
Header	YY-5900-WRS&WSS

3. Material

Product Name		Material
Housing		Nylon 66 UL94-V2 Nylon 66 UL94-V0
Terminal		Brass , Phosphor Bronze Tin-plated
Header	Body	Nylon 66 UL94-V2 Nylon 66 UL94-V0
	Pin	Brass; Tin-plated

4. Shape, Construction and Dimensions

See attached drawings

Created	Checked	Approved	Date
Frank	Denise	Jessica	2011/11/16



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5. Electrical Performance

	ITEM	TEST CONDITION	REQUIREMENT	
5-1	Rated Voltage (Max.) 最大容許電壓		600V AC (r.m.s.)	
	Rated Current and Applicable Wire 適合的線材所承受的電流	Wire Gage / Circuits	3	4, 5
		AWG #16 ~ #18	9A	8A
		AWG #20	7A	6A
		AWG #22	5A	4A
		AWG #24	4A	3A
		AWG #26	3A	2A
5-2	Contact Resistance 接觸阻抗	Dry circuit of DC 20mV Max. , 100mA Max. , Wire resistance shall be removed from the measured value 組合狀態下連接器,於其兩端施以最大電壓 20mV 以及最大電流 100mA	10mΩ Max. 最大值	
5-3	Dielectric Strength 耐電壓	When applied AC 1500V 1minute between adjacent terminal 組合狀態下連接器,於其相鄰兩導體末端各施以 1500V AC(實效值)時間 1 分鐘	No Change 沒有損壞	
5-4	Insulation Resistance 絕緣組抗	When applied DC 500 V between adjacent terminal or ground 組合狀態下連接器,對相鄰兩接觸導體,各施以 500V DC 電壓量測其間絕緣阻抗值	1000MΩ Min. 最小值	

6. Mechanical Performance

6-1	Wire size 適用的線材規格	Specified wire size 線材規格清單	Accepts AWG#16~#26
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6-2	Crimping Pull Out Force 壓鑄端子拔出力	Fix the crimped terminal , apply axial pull out force on the wire at the speed rate of 25±3mm/minute 固定壓鑄端子,用軸向的力量拔出電線以每分鐘 25±3 mm 的速率	AWG#16	11.0KgfMin.		
			AWG#18	9.0KgfMin.		
			AWG#20	7.0KgfMin.		
			AWG#22	5.0KgfMin.		
			AWG#24	3.0KgfMin.		
			AWG#26	2.0KgfMin.		
6-3	Terminal Insertion Force 端子插入力	Insertion speed 25±3mm/minute into housing 壓鑄端子插入 Housing 以每分鐘 25±3 mm 的速率	1.5Kgf Max. 最大值			
6-4	Terminal/Housing Retention Force 端子/Housing 保持力	Apply axial pull out force at the speed rate of 25±3 mm/minute on the terminal assembled in the housing 用軸向的力量拔出組裝在 Housing 裡的端子以每分鐘 25±3 mm 的速率	5.0Kgf Min. 最小值			
6-5	Single Contact Insertion Force 單 pin 插入力	Measure force to insertion using mating square pin at speed 25±3 mm/minute 量測 Terminal 和 pin 針插入之力量.每分鐘 25±3 mm 的速率	0.7Kgf Max. 插入力(最大值)			
6-6	Single Contact Withdrawal Force 單 pin 拔出力	Measure force to withdrawal using mating square pin at speed 25±3 mm/minute 量測 Terminal 和四方 pin 拔出之力量.每分鐘 25±3 mm 的速率	0.1Kgf Min. 拔出力(最小值)			
6-7	Durability 耐久性	Connector shall be subjected to 100 cycles of insertion and withdrawal 插入拔出 100 循環,以一分鐘 10 循環的速率	Contact resistance:接觸組抗 Less then twice of initial			
6-8	Pin Retention Force 針保持力	Apply axial push force at the speed rate of 25±3mm/minute 以每分鐘 25±3 mm 的速率從塑膠將 PIN 針頂出.	1.0Kgf Min. (最小值)			



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6-9	Locking Force 卡扣拉力	While with drawing plug & receptacle without terminal at speed 25±3 mm/minute 以每分鐘 25±3 mm 的速率從塑膠從 Wafer 卡扣中拔出	1.5Kgf Min. (最小值)
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7. Environmental Performance

	ITEM	TEST CONDITION	REQUIREMENT
7-1	Temperature rise 溫度上升	Then carried the rated current 組合狀態下連接器,最大容許電流通電,量測連接器的上升溫度	30°C Max. 最大值
7-2	Vibration 耐震動性	1.5 mm 10-55-10 HZ/ minute each 2 hours for X , Y and Z directions 振幅/頻率/持續時間	Appearance:No Damage 外觀沒有損壞 Discontinuity: 電流中斷 1 micro seconds Max.
7-3	Solder ability 焊錫性	Tin-Lead Process: Soldering Time:5±0.5 second 時間 Solder Temperature: 230±5°C 溫度 Lead-Free Process: Soldering Time:3±0.5 second 時間 Solder Temperature: 245±5°C 溫度	Minimum: 90% of immersed area 吃錫面積
7-4	Resistance to soldering heat	Tin-Lead Process: Soldering Time: 5±0.5 second 時間 Solder Temperature: 245±5°C 溫度 Lead-Free Process: Soldering Time: 5±0.5 second 時間 Solder Temperature: 260±5°C 溫度	No Damage 沒有損壞
7-5	Heat aging 耐熱老化	105±2°C , 96 hours (UL 94-V0)	No Damage 沒有損壞
		85±2°C , 96 hours (UL 94-V2) 組合連接器放置於烤箱中,進行高溫老化試驗	



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	ITEM	TEST CONDITION	REQUIREMENT
7-6	Humidity 耐濕性	溫度 40±2°C , 相對溼度 90-95%RH , 持續時間 96 hours Measurement must be taken within 30 min. after tested	Appearance: No damage 外觀沒有損壞 Contact resistance:接觸組抗 Less than twice of initial Dielectric strength:耐電壓 To pass para. 5-3 滿足5-3
7-7	Temperature cycling 溫度循環	One cycle consists of (UL 94-V0): (1)-40 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3)105 ⁺³ ₋₀ °C , 30 min. (4)Room temp. 10-15 min. One cycle consists of (UL 94-V2): (1)-25 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3) 85 ⁺³ ₋₀ °C , 30 min. (4)Room temp. 10-15 min. -55°C 溫度持續 30 分鐘.室溫持續 5 分鐘 ++85°C 溫度持續 30 分鐘.室溫持續 5 分鐘 爲一循環 需做 25 循環	Appearance: No damage Contact resistance: Less than twice of initial 接觸組抗 外觀沒有損壞
7-8	Salt spray 鹽水噴霧	Temperature: 35±3°C Solution: 5±1% Spray time: 48±4 hours Measurement must be taken after water rinse 曝露在鹽水噴霧下 48±4 小時 5+1%鹽水溶液 溫度 35± 3°C	Appearance: No damage Contact resistance: Less than twice of initial 接觸組抗 外觀沒有損壞

8. Ambient Temperature Range: -40 to + 105°C (UL 94V-0)
-25 to + 85°C (UL 94V-2)

環境溫度



9. Mating Force And Unmating Force:

Unit: kgf

綜合插拔力

Number of Circuits	Mating Force (Max.)	Unmating Force (Min.)
3	2.10	0.80
4	2.80	1.20
5	3.50	1.60



Part No.	YY-5900	PRODUCT SPECIFICATION	Document NO.	SP5900-01	
Title	4.2mm(.165") Pitch Wire to Board Connector(Dual Row)		Rev.	A0	Page 1 of 5

1. Applicable Standards

- MIL-STD-202 Methods for test of connectors for electronic equipment
- MIL-STD-1344 Test methods for electrical connectors

2. Product & Part Number

Product Name	Product Number
Housing	YY-5700-H
Terminal	YY-5700-T
Header	YY-5900-WR&WS

3. Material

Product Name	Material
Housing	Nylon 66 UL94-V2 Nylon 66 UL94-V0
Terminal	Brass , Phosphor Bronze Tin-plated
Header	Body Nylon 66 UL94-V2 Nylon 66 UL94-V0
	Pin Brass; Tin-plated

4. Shape, Construction and Dimensions

See attached drawings

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Frank	Denise	Jessica	2011/11/16



Part No.	YY-5900	PRODUCT SPECIFICATION	Document NO.	SP5900-01		
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5. Electrical Performance

	ITEM	TEST CONDITION	REQUIREMENT			
5-1	Rated Voltage (Max.) 最大容許電壓		600V AC (r.m.s.)			
	Rated Current and Applicable Wire 適合的線材所承受的電流	Wire Gage / Circuits	2	4~6	8~10	12~24
		AWG #16 ~ #18	9A	8A	7A	6A
		AWG #20	7A	6A	5A	5A
		AWG #22	5A	4A	4A	4A
		AWG #24	4A	3A	3A	3A
	AWG #26	3A	2A	2A	2A	
5-2	Contact Resistance 接觸阻抗	Dry circuit of DC 20mV Max. , 100mA Max. , Wire resistance shall be removed from the measured value 組合狀態下連接器,於其兩端施以最大電壓 20mV 以及最大電流 100mA	10mΩ Max. 最大值			
5-3	Dielectric Strength 耐電壓	When applied AC 1500V 1minute between adjacent terminal 組合狀態下連接器,於其相鄰兩導體末端各施以 1500V AC(實效值)時間 1 分鐘	No Change 沒有損壞			
5-4	Insulation Resistance 絕緣組抗	When applied DC 500 V between adjacent terminal or ground 組合狀態下連接器,對相鄰兩接觸導體,各施以 500V DC 電壓量測其間絕緣阻抗值	1000MΩ MIN. 最小值			

6. Mechanical Performance

	ITEM	TEST CONDITION	REQUIREMENT	
6-1	Wire size 適用的線材規格	Specified wire size 線材規格清單	Accepts AWG#16~#26	
6-2	Crimping Pull Out Force 壓鑄端子拔出力	Fix the crimped terminal , apply axial pull out force on the wire at the speed rate of 25±3mm/minute 固定壓鑄端子,用軸向的力量拔出電線以每分鐘 25±3 mm 的速率	AWG#16	11.0KgfMin.
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			AWG#22	5.0KgfMin.
			AWG#24	3.0KgfMin.
		AWG#26	2.0KgfMin.	



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	ITEM	TEST CONDITION	REQUIREMENT
6-3	Terminal Insertion Force 端子插入力	Insertion speed 25±3mm/minute into housing 壓鑄端子插入 Housing 以每分鐘 25±3 mm 的速率	1.5Kgf Max. 最大值
6-4	Terminal/Housing Retention Force 端子/Housing 保持力	Apply axial pull out force at the speed rate of 25±3 mm/minute on the terminal assembled in the housing 用軸向的力量拔出組裝在 Housing 裡的端子以每分鐘 25±3 mm 的速率	5.0Kgf Min. 最小值
6-5	Single Contact Insertion Force 單 pin 插入力	Measure force to insertion using mating square pin at speed 25±3 mm/minute 量測 Terminal 和 pin 針插入之力量.每分鐘 25±3 mm 的速率	0.7Kgf Max. 插入力(最大值)
6-6	Single Contact Withdrawal Force 單 pin 拔出力	Measure force to withdrawal using mating square pin at speed 25±3 mm/minute 量測 Terminal 和四方 pin 拔出之力量.每分鐘 25±3 mm 的速率	0.1Kgf Min. 拔出力(最小值)
6-7	Durability 耐久性	Connector shall be subjected to 100 cycles of insertion and withdrawal 插入拔出 100 循環,以一分鐘 10 循環的速率	Contact resistance:接觸組抗 Less then twice of initial
6-8	Pin Retention Force 針保持力	Apply axial push force at the speed rate of 25±3mm/minute 以每分鐘 25±3 mm 的速率從塑膠將 PIN 針頂出.	1.0Kgf Min. (最小值)
6-9	Locking Force 卡扣拉力	While with drawing plug & receptacle without terminal at speed 25±3 mm/minute 以每分鐘 25±3 mm 的速率從塑膠從 Wafer 卡扣中拔出	1.5Kgf Min. (最小值)



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7. Environmental Performance

	ITEM	TEST CONDITION	REQUIREMENT
7-1	Temperature rise 溫度上升	Then carried the rated current 組合狀態下連接器,最大容許電流通電,量 測連接器的上升溫度	30°C Max. 最大值
7-2	Vibration 耐震動性	1.5 mm 10-55-10 HZ/ minute each 2 hours for X , Y and Z directions 振幅/頻率/持續時 間	Appearance:No Damage 外觀沒有損壞 Discontinuity: 電流中斷 1 micro seconds Max.
7-3	Solder ability 焊錫性	Tin-Lead Process: Soldering Time:5±0.5 second 時間 Solder Temperature: 230±5°C 溫度 Lead-Free Process: Soldering Time:3±0.5 second 時間 Solder Temperature: 245±5°C 溫度	Minimum: 90% of immersed area 吃錫面積
7-4	Resistance to soldering heat	Tin-Lead Process: Soldering Time: 5±0.5 second 時間 Solder Temperature: 245±5°C 溫度 Lead-Free Process: Soldering Time: 5±0.5 second 時間 Solder Temperature: 260±5°C 溫度	No Damage 沒有損壞
7-5	Heat aging 耐熱老化	105±2°C , 96 hours (UL 94-V0) 85±2°C , 96 hours (UL 94-V2) 組合連接器放置於烤箱中,進行高溫老化 試驗	No Damage 沒有損壞



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ITEM	TEST CONDITION	REQUIREMENT
7-6 Humidity 耐濕性	溫度 40±2°C , 相對溼度 90-95%RH , 持續時間 96 hours Measurement must be taken within 30 min. after tested	Appearance: No damage 外觀沒有損壞 Contact resistance:接觸組抗 Less than twice of initial Dielectric strength:耐電壓 To pass para. 5-3 滿足 5-3
7-7 Temperature cycling 溫度循環	One cycle consists of (UL 94-V0): (1)-40 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3)105 ⁺³ ₋₀ °C , 30 min. (4)Room temp. 10-15 min.	Appearance: No damage Contact resistance: Less than twice of initial 接觸組抗 外觀沒有損壞
	One cycle consists of (UL 94-V2): (1)-25 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3) 85 ⁺³ ₋₀ °C , 30 min. (4)Room temp. 10-15 min. -55°C 溫度持續 30 分鐘.室溫持續 5 分鐘 ++85°C 溫度持續 30 分鐘.室溫持續 5 分鐘 爲一循環 需做 25 循環	
7-8 Salt spray 鹽水噴霧	Temperature: 35±3°C Solution: 5±1% Spray time: 48±4 hours Measurement must be taken after water rinse 曝露在鹽水噴霧下 48±4 小時 5+1%鹽水溶液 溫度 35± 3°C	Appearance: No damage Contact resistance: Less than twice of initial 接觸組抗 外觀沒有損壞

8. Ambient Temperature Range: -40 to + 105°C (UL 94V-0) ; -25 to + 85°C (UL 94V-2)

環境溫度



9. Mating Force And Unmating Force:

Unit: kgf

綜合插拔力

Number of Circuits	Mating Force (Max.)	Unmating Force (Min.)
2	1.8	0.25
4	2.6	0.5
6	4.1	0.8
8	5.5	1.2
10	6.8	1.6
12	8.3	2.0
14	9.7	2.4
16	11.0	2.8
18	12.5	3.2
20	13.8	3.6
22	15.2	4.1
24	16.5	4.6