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| Part No. | YY-5850 | PRODUCT SPECIFICATION | Document No. | | SP5850-02 | |
| Title | 3.00mm (.118) Pitch Wire to Board Housing (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-5750-HS |
| | YY-5850-HS&HSE |
| Terminal | YY-5750-T ; YY-5850-T |

3. Material

| Product Name | Material |
|--------------|--------------------------|
| Housing | Nylon 66 UL94-V0 |
| Terminal | Brass , Phosphor Bronze |
| | Gold-plated ; 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.) Rated Current (Max.) And Applicable Wire 最大容許電壓 適合的線材所承受的電流 | | 250V AC (r.m.s.) |
| | | AWG #20 wire gage | 5A |
| | | AWG #22 wire gage | 5A |
| | | AWG #24 wire gage | 4A |
| | | AWG #26 wire gage | 2A |
| | | AWG #28 wire gage | 1A |
| | | AWG #30 wire gage | 1A |
| 5-2 | Contact Resistance 接觸阻抗 | Dry circuit of DC 20mV Max. , 100mA Max. , Wire resistance shell 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 |
| 5-5 | Contact Resistance on Crimped Portion 接觸阻抗(端子/線) | Crimp the wire to the terminal, measure by dry circuit, 20mV max., 100mA Max., Wire resistance shell be removed from the measured value 铆好端子和線,於其兩端施以最大電壓 20mV 以及最大電流 100mA | 5mΩ Max. 最大值 |

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#20~#30 |
| 6-2 | Crimping Pull Out Force | Fix the crimped terminal , apply axial pull | AWG#20 7.0KgMin. |



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| | 壓鑄端子拔出力 | 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#22 | 5.0KgfMin. | | |
| | | | AWG#24 | 3.0KgfMin. | | |
| | | | AWG#26 | 2.0KgfMin. | | |
| | | | AWG#28 | 1.0KgfMin. | | |
| | | | AWG#30 | 0.8KgfMin. | | |
| | 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 | 3.0Kgf 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 | 0.15Kgf Min. 拔出力(最小值) | | | |
| 6-7 | Durability 耐久性 | Connector shall be subjected to 30 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. | 1.5Kgf Min. (最小值) | | | |
| 6-9 | Locking Force | While with drawing plug & receptacle | 5.5Kgf Min. | | | |



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| | 卡扣拉力 | 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 | | (最小值) | |

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 second Max. |
| 7-3 | Heat aging 耐熱老化 | 105±2°C , 96 hours 組合連接器放置於烤箱中,進行高溫老化 | No Damage 沒有損壞 |
| 7-4 | Humidity 耐濕性 | 溫度 60±2 , 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 |

| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|-----------------------------|---|--|
| 7-5 | Temperature cycling 溫度循環 | One cycle consists of : (1)-55 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3)105 ⁺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 為一循環 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 |
| 7-6 | Salt spray 鹽水噴霧 | Temperature: 35±3°C | Appearance: No |



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| | | 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 | | damage Contact resistance: Less than twice of initial 接觸組抗 外觀沒有損壞 | |

8. Operating Temperature : -40 to +105°C 環境溫度

9. Mating Force And Unmating Force 綜合插拔力

Unit: kgf

| Number of Circuits | Mating Force (Max.) | Unmating Force (Min.) |
|--------------------|---------------------|-----------------------|
| 2 | 1.6 | 0.7 |
| 3 | 2.5 | 1.1 |
| 4 | 3.3 | 1.5 |
| 5 | 4.1 | 1.9 |
| 6 | 4.9 | 2.2 |
| 7 | 5.7 | 2.6 |
| 8 | 6.5 | 3.0 |
| 9 | 7.3 | 3.4 |
| 10 | 8.2 | 3.8 |
| 11 | 9.0 | 4.1 |
| 12 | 9.8 | 4.5 |



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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-5750-H |
| | YY-5850-H&HE |
| Terminal | YY-5750-T ; YY-5850-T |

3. Material

| Product Name | Material |
|--------------|--------------------------|
| Housing | Nylon 66 UL94-V0 |
| Terminal | Brass , Phosphor Bronze |
| | Gold-plated ; Tin-plated |

4. Shape, Construction and Dimensions

See attached drawings

| | | | |
|---------|---------|----------|------------|
| Created | Checked | Approved | Date |
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5. Electrical Performance

| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|--|--|--------------------|
| 5-1 | Rated Voltage (Max.) Rated Current (Max.) And Applicable Wire 最大容許電壓 適合的線材所承受的電流 | | 250V AC (r.m.s.) |
| | | AWG #20 wire gage | 5A |
| | | AWG #22 wire gage | 5A |
| | | AWG #24 wire gage | 4A |
| | | AWG #26 wire gage | 2A |
| | | AWG #28 wire gage | 1A |
| | | AWG #30 wire gage | 1A |
| 5-2 | Contact Resistance 接觸阻抗 | Dry circuit of DC 20mV Max. , 100mA Max. , Wire resistance shell 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 |
| 5-5 | Contact Resistance on Crimped Portion 接觸阻抗(端子/線) | Crimp the wire to the terminal, measure by dry circuit, 20mV max., 100mA Max., Wire resistance shell be removed from the measured value 铆好端子和線,於其兩端施以最大電壓 20mV 以及最大電流 100mA | 5mΩ Max. 最大值 |

6. Mechanical Performance

| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|-----------|---------------------|--------------------|
| 6-1 | Wire size | Specified wire size | Accepts AWG#20~#30 |



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| | 適用的線材規格 | 線材規格清單 | | | | |
| 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#20 | 7.0KgfMin. | |
| | | | | AWG#22 | 5.0KgfMin. | |
| | | | | AWG#24 | 3.0KgfMin. | |
| | | | | AWG#26 | 2.0KgfMin. | |
| | | | | AWG#28 | 1.0KgfMin. | |
| | | | | AWG#30 | 0.8KgfMin. | |
| | 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 | 3.0Kgf 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 | 0.15Kgf Min. 拔出力(最小值) | | | |
| 6-7 | Durability 耐久性 | Connector shall be subjected to 30 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 | | | |
| 6-9 | Locking Force 卡扣拉力 | While with drawing plug & receptacle without terminal at speed 25±3 | 5.5Kgf Min. (最小值) | | | |



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| | | mm/minute 以每分鐘 25±3 mm 的速率從塑膠從 Wafer 卡扣中拔出 | | | |

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 second Max. |
| 7-3 | Heat aging 耐熱老化 | 105±2°C , 96 hours 組合連接器放置於烤箱中,進行高溫老化 | No Damage 沒有損壞 |
| 7-4 | Humidity 耐濕性 | 溫度 60±2 , 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 |

| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|-----------------------------|--|--|
| 7-5 | Temperature cycling 溫度循環 | One cycle consists of : (1)-55 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3)105 ⁺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 | Appearance: No damage Contact resistance: Less than twice of initial 接觸組抗 |



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| | | ++85°C 溫度持續 30 分鐘.室溫持續 5 分鐘 為一循環 需做 25 循環 | 外觀沒有損壞 | | |
| 7-6 | 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. Operating Temperature : -40 to +105°C 環境溫度

9. Mating Force And Unmating Force 綜合插拔力

Unit: kgf

| Number of Circuits | Mating Force (Max.) | Unmating Force (Min.) |
|--------------------|---------------------|-----------------------|
| 2 | 2.0 | 0.5 |
| 4 | 3.0 | 1.0 |
| 6 | 6.0 | 1.5 |
| 8 | 7.0 | 2.0 |
| 10 | 9.0 | 2.5 |
| 12 | 10.0 | 3.0 |
| 14 | 11.0 | 3.5 |
| 16 | 12.0 | 4.0 |
| 18 | 13.0 | 4.5 |
| 20 | 14.0 | 5.0 |
| 22 | 15.0 | 5.5 |
| 24 | 16.0 | 6.0 |