



Part No.	YY-A5041& YY-A5042 YY-A5043& YY-A5044 YY-A5045& YY-A5046	PRODUCT SPECIFICATION	Document No.	SP-A504X-A	
Title	5.0mm (.197) Wire to Board Connector		Rev.	A3	Page 1 of 4

1. Scope

This specification covers the 5.0mm Pitch Wire to Board Connector series.

2. Product Number & Material

Product Name	Product Number	Material	UL Rating / Finish
Header	YY-A5041-W**	Body: Nylon 66 Contact: Brass	Body: UL94-V0 GWT 750°C No Flame Contact: Tin-plated over Nickel or Sliver-plated over Nickel
	YY-A5042-W**		
	YY-A5043-W**		
	YY-A5044-W**		
	YY-A5045-W**		
	YY-A5046-W**		

3. Shape, Construction and Dimensions

See attached drawings

4. Characteristics 使用範圍

	ITEM	STANDARD
4-1	Current Rated 額定電流	16A Max.
4-2	Voltage Rated 額定電壓	250V AC
4-3	Operating Temperature 環境溫度	-40 to + 105°C

5. Electrical Performance 電氣特性

No.	ITEM	TEST CONDITION	REQUIREMENT
5-1	Contact Resistance 接觸阻抗	Dry circuit of DC 20mV Max. 100mA Max. (EIA 364-23B) 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	5mΩ Max. (Initial) 最大值

Created	Checked	Approved	Date
Nancy	Scott	Scott	2018/03/23



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5-2	Insulation Resistance 絕緣阻抗	When applied DC 500 V between adjacent terminal or ground (EIA 364-21C) 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				> 10,000 MΩ
5-3	Dielectric Strength 耐電壓	When applied 2.5KV 1minute between adjacent terminal (EIA 364-20C) 組合狀態下連接器,於其相鄰兩導體末端各施以 2500V AC(實效值)時間 1 分鐘				No Breakdown 沒有損壞

6. Mechanical Performance 機械特性

No.	ITEM	TEST CONDITION	REQUIREMENT
6-1	Mating Force 插入力	Force measured using a polished pin of 25±3 mm/minute (EIA 364-13) 公端連接器以速度為 25±3mm/1 分鐘插入相匹配的母端的力量	15N (1.5Kgf) Max. Per Contact
6-2	Un-mating Force 拔出力	Force measured using a polished pin of 25±3 mm/minute (EIA 364-13) 公端連接器以速度為 25±3mm/1 分鐘拔出相匹配的母端的力量	6N (0.6Kgf) Min. Per Contact
6-3	Contact Retention Force 端子保持力	Apply axial push force at the speed rate of 25±3mm/minute 端子從塑膠退出的力量以每分鐘 25±3 mm 的速率	45N (4.5Kgf) Min.
6-4	Durability 耐久性	Mate connectors up to 10 cycles at a maximum rate of 10 cycles per minute prior to Environmental Tests. (EIA-364-09) 插入拔出 10 循環,以一分鐘 10 循環的速率	Contact resistance: Less than twice of initial
6-5	Vibration 耐震動性	Frequency: 10~200 Hz Acceleration: 15G Duration: 8 hours/axis (EIA 364-28D) 頻率: 10~200 HZ 加速度: 15G	Contact resistance: Less than twice of initial Appearance: No Damage Discontinuity: 1.0 microsecond Max.



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		持續時間 2 hours in each X , Y , Z axes	沒有損壞 電流中斷： 1.0 microsecond Max.		

7. Environmental Performance 環境特性

No.	ITEM	TEST CONDITION	REQUIREMENT
7-1	Dry Heat 高溫測試	110 ± 2°C , 168 hours. (EIA 364-17B)	Appearance : No Damage 沒有損壞
7-2	Cold Exposure 低溫測試	-40 ± 2°C , 2 hours. (EIA 364-59A)	Appearance : No Damage 沒有損壞
7-3	Salt Spray 鹽水噴霧測試	Temperature:35±2°C Solution:5wt.%NaCl solution Exposing duration:48 hours (EIA 364-26) 溫度 35± 2°C 鹽水溶液 5wt 曝露時間 96 小時	Contact resistance: Less than twice of initial Appearance : No Damage
7-4	SO ₂ Gas SO ₂ 氣體測試	Test gas concentration: CL ₂ =20 ppb NO ₂ =200 ppb H ₂ S=100 ppb SO ₂ =200 ppb Temperature: 30°C Exchange rate: 5 times/hour Test Duration: 16 hours (EIA 364-65) 測試氣體濃度 CL ₂ =20 ppb NO ₂ =200 ppb H ₂ S=100 ppb SO ₂ =200 ppb 溫度: 30°C 交替時間: 5 times/hour 測試時間: 16 hours	Contact resistance: Less than twice of initial Appearance : No Damage
7-5	Temperature Cycling 溫度循環測試	25 cycle consists of : (1)-55 °C , 30 minutes →Room Temp. 5minutes (2)+85°C , 30 minutes →Room Temp. 5minutes	Contact resistance: Less than twice of initial Appearance : No Damage



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		(EIA 364-32) 做 25 循環 -55 °C 持續 30 分鐘.室溫持續 5 分鐘 +85°C 持續 30 分鐘.室溫持續 5 分鐘				
7-6	Temperature Rise 溫升測試	Carrying rated current load. 承載額定電流負載		30°C Max.		
7-7	Solder ability 焊錫性測試	Soldering Time : 3 ± 0.5 sec. Solder Temperature : 245 ± 5°C 焊接時間 : 3 ± 0.5 sec 焊接溫度 : 245 ± 5°C		Minimum : 95% of immersed area. 吃錫面積 95%		
7-8	Glow Wire Test 燃燒測試	Connector subject to rated temp glow wire for 30 seconds on X, Y & Z axis (IEC 60695-2-11) 在 X , Y 和 Z 軸上連接額定溫度灼熱絲 30 秒		Glow wire temp=750°C The tissue paper placed below it shall not ignite. 灼熱絲溫度 =750°C		
7-9	Ball Pressure Test 球壓硬度測試	Test for 1 hour at +140°C (IEC 60695-10-2) 在+ 140°C下測試 1 小時		Diameter of footprint not To exceed 2mm. 壓痕直徑不超過 2mm		

8. Derating Curve :

Derating curve according to DIN IEC 60512-3 test 5b

Wire size: 2.5 mm² ; 4 Poles

Table 1 Derating Data

Test Current, A	Tb, °C	Tu, °C	Δ t, °C	Tm-Δ t, °C	80% Current, A
0	22.5	22.5	0	120.0	0
5	28.7	22.6	6.1	113.9	4
16	61.5	22.8	38.7	81.3	12.8
20	77.1	22.5	54.6	65.4	16

Tb: Measured Temperature	Tu: Ambient Temperature
Δ t: Temperature Rises (Tb- Tu)	Tm: Upper temperature limit of the materials

