PRODUCT SPECIFICATION 規格書

MICRO – FIT HCS(High Current System) 高電流

Scope 範圍:

This specification covers the 3.00mm(.118") spacing wire to board connector series specifically for High-Current performance. ---這份規範包含間距 3.0mm 線對板的連接器系列.具體是針對大電流規格

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1.Product Name and Part Number 產品名稱和零件編號

Part Name 產品類別	Part Number 產品料號
Housing 膠殼	ZH-5750-HXXX ZH-5850-HXXX
Terminal 端子	ZH-5750-TXXX ZH-5850-TXXX
Wafer 公座	ZH-5950-WXXSX (180°)
	ZH-5950-WXXRX (90°)

2.Construction, Dimensions, Material & Surface Finish 建議使用的材質及電鍍方式

Part Name 產品類別		Material 材料	Surface Finish, etc 型號及電鍍方式
Housing 膠殼		Nylon 66 尼龍 66	UL94V-0
Terminal 端子		copper alloy 高導銅	Tin plated/Gold plated 鍍錫/鍍金
Wafer 公座	Insulator 絕緣體	Nylon 66	UL94V-0
	Contact 接觸件	Brass/copper alloy 黃銅/高導銅	Tin plated/Gold plated 鍍錫/鍍金

3. Ratings and Applicable Wires 規格及適用電線

Item 項目		wire-to-board/线对板						
Rated Voltage (MAX) 最大額定電壓		**300V AC (rms)/DC**						
Rate Current & Applic-Wire 最大額定電流和適用電線	Wire size	2X1	2X2	2X3 2X4	2X5 2X6	2X7 2X8 2X9	2X10 2X11 2X12	Insulation OD 電線絕緣外徑 Ø2.10mm (MAX)
	AWG 16#	12.0A	11.0A	9.5A	8.5A	8.0A	7.5A	
	AWG 18#	10.0A	9.0A	8.0A	7.5A	7.0A	6.5A	

4. Ambient Temperature Range/使用環境溫度範圍

Ambient Temperature Range/使用環境溫度範圍：-25℃ ~ +85℃

5. Performance 性能

5-1. Electrical Performance 電氣性能

Item 項目		Test Method and Condition 測試方法及條件	Requirement 基準
5-1-1	Contact Resistance 接觸阻抗	Test Method測試方法: EIA-364-23 Mate connectors 公母連接器對插後 Test Current 測試電流: 100 mA Open Voltage 開路電壓: 20 mV MAX	Initial 初始值： 10 mΩ MAX
5-1-2	Insulation Resistance 絕緣阻抗	Test Method測試方法:EIA-364-21 apply 500V DC between adjacent terminal or ground 供給500V DC電壓於相鄰端子間或端子與接地間	1000 MΩ MIN
5-1-3	Dielectric Strength 耐電壓	Test Method測試方法: EIA-364-20 apply 1000V AC. for 1 minute between adjacent terminal or ground. 供給1000V AC電壓，通電1分鐘於相鄰端子間或端子與接地間	No Breakdown and Flashover 無擊穿和電火花 Leakage current 漏電流 ≤0.5mA

5-2. Mechanical Performance 機械性能

Item 項目		Test Method and Condition 測試方法及條件	Requirement 基準	
5-2-1	Insertion Force and Withdrawal Force 插入力和拔出力	Test Method測試方法:EIA-364-13 Mate connectors Insert and withdraw connectors at the speed rate of 25±3mm minute 公母連接器對插後以每分鐘25±3mm的速度進行連接器的插入和拔出	Insertion Force 插入力 0.70Kgf(MAX)/ Pin	
			Withdrawal Force 撥出力 0.20Kgf(MIN)/ Pin	
5-2-2	Crimping Pull Out Force 打包拉力	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25±3mm minute. 固定壓著電線之端子，施加軸向之拉力於電線上以每分鐘25±3mm的速度進行測試	UL1061 AWG#16	8.00(MIN)
			UL1007 AWG#18	8.00(MIN)
			UL1007 AWG#20	5.50(MIN)
5-2-3	Terminal / Housing Retention Force 端子退出膠殼的保持力	Test Method測試方法:EIA-364-29 Apply axial pull out force at the speed rate of 25±3mm minute on the terminal assembled in the housing. 將端子組裝於膠殼後，施加軸向拉力於端子上退出膠殼，以每分鐘25±3mm的速度進行測試	2.5 Kgf（MIN）	
5-2-4	Pin Retention Force PIN 針保持力	Apply axial push force at speed rate of 25±3mm minute on the contact pin assembled in the base wafer.(施加軸向拉力於PIN針上使之脫離本體，以每分鐘25±3mm的速度進行測試）	2.5 Kgf（MIN）	

5-3. Environmental Performance and Others 耐環境性能

Item 項目		Test Method and Condition 測試方法及條件	Requirement 基準	
5-3-1	Durability 耐久性	Mate connector up to 50 cycles repeatedly at a rate of 10 cycles per minute. After which the contact resistance shall be measured.（以每分鐘10次的速度，將連接器公母對插50次後量測數據）	Contact Resistance 接觸阻抗	20 mΩ MAX
5-3-2	Temperature Rise 溫升測試	Test Method測試方法:EIA-364-70B Each terminals of the sample will be connected in series and the load current is. Test for 4 hours and record the initial temperature, the maximum temperature and the temperature variation. Requirements for 將樣品各端子串聯,負載電流,測試4H,記錄初始溫度值、最高溫度值、溫度變化值.	Temperature Rise 溫度變化值	30℃ MAX
5-3-3	Shock 衝擊	Test Method測試方法:EIA-364-27A Mated connector shall be mounted on a PCB and subjected to the shock test of the following conditions：Acceleration：50G 3 strokes in each X,Y,Z axials. 連接器安裝在PCB板上進行振動測試,衝擊測試條件以50G加速度爲條件 X Y Z三個方向每個方向衝擊3次	Appearance 外觀	No damage 無損傷
			Contact Resistance 接觸阻抗	20 mΩ MAX
			Discontinuity 瞬斷	1.0 microsecond MAX
5-3-4	Thermal Aging 耐高溫	Test Method測試方法:EIA-364-17 Mated connector shall be placed in a temperature chamber on the following conditions : 公母連接器放在以下溫度條件下： * Temperature : 105 ± 3 ℃（溫度：105 ± 3度） * Duration : 96 ± 4 Hours（時間：96 ± 4小時）	Contact Resistance 接觸阻抗	20 mΩ MAX
			Appearance 外觀	No damage 無損傷
5-3-5	Cold Resistance 耐低溫	Mated connector shall be placed in a temperature chamber on the following conditions : 公母連接器放在以下溫度條件下： * Temperature : -40 ± 3 ℃（溫度：-40±3度） * Duration : 96 ± 4 Hours（時間：96±4小時）	Contact Resistance 接觸阻抗	20 mΩ MAX
			Appearance 外觀	No damage 無損傷
5-3-6	Humidity 耐濕度	Test Method測試方法:EIA-364-31 Mated connector shall be placed in a humidity chamber on the following conditions :（公母連接器應放在濕度室條件下） * Temperature: 40 ±2 ℃（溫度：40±2度） * Relative humidity: 90~95%（相對濕度：90-95%） * Period: 96 Hours（期間：96小時）	Contact Resistance 接觸阻抗	20 mΩ MAX
			Insulation Resistance 絕緣阻抗	1000mΩ MIN
			Dielectric Strength 耐電壓	must meet依照4-1-3
			Appearance 外觀	No damage 無損傷

5-3-7	Constant temperature and humidity 恆溫恆濕	Mated connector as to the following conditions : 公母連接器處於下列溫濕度條件下 * Humidity : 93 ± 5% （相對濕度：93 ± 5%） * Temperature : 40 ± 3℃（溫度：40±3度） * Duration : 14 days（持續時間：14天）	Contact Resistance 接觸阻抗	20 mΩ MAX
			Appearance 外觀	No damage 無損傷
5-3-8	Salt Spray 鹽霧	Test Method測試方法:EIA-364-26 Mated connector shall be placed on a salt spray chamber on the following conditions : 公母連接器應放在監霧室條件下 * Salt Solution Density : 5 ± 1% 鹽霧以5±1%鹽水溶液噴灑而成 * Temperature : 35 ± 2℃ 樣品曝露於溫度35 ± 2℃ * Duration : 24 ± 4 Hours（鹽霧過24± 4小時） 此標準適用於先衝後鍍端子	Contact Resistance 接觸阻抗	20 mΩ MAX
			Appearance 外觀	No damage 無損傷
5-3-9	Solderability 焊錫性	Test Method測試方法:EIA-364-52 Immerse fluxed soldered section of contact pin into a solder bath with the following conditions : 將焊劑焊接產品表面浸在焊錫槽內條件下 * Solder temperature焊錫溫度: 230℃ ±5℃ * Immersion Period浸錫時間: 3 ±0.5 sec	immersed area 浸錫	95% of immersed area must show no voids nor pin holes 浸錫區域95%不可有空洞和針孔
5-3-10	Resistance to Soldering Heat 焊錫耐熱	Mated connector shall be dipped on solder bath with the following conditions : 公母連接品浸在下麵錫槽的條件下） Solder temperature : 260 ±5℃ 焊錫溫度：260度±5度 Immersion Period : 5 ±0.5 sec 浸錫時間：5±0.5秒	Appearance 外觀	No damage 無損傷

Attached： Actuator Insertion/Withdrawal Force

[Unit:kgf]

Circuits	At Initial		Circuits	At Initial	
	Insertion (Max.)	Withdrawal (Min.)		Insertion (Max.)	Withdrawal (Min.)
Single	0.70	0.20	2*07P	9.80	2.80
2*01P	1.40	0.40	2*08P	11.20	3.20
2*02P	2.80	0.80	2*09P	12.60	3.60
2*03P	4.20	1.20	2*10P	14.00	4.00
2*04P	5.60	1.60	2*11P	15.40	4.40
2*05P	7.00	2.00	2*12P	16.80	4.80
2*06P	8.40	2.40			