

1.適用範圍 SCOPE

RoHS COMPLIANT PRODUCT

本規格書適用於 FPC / FFCCONNECTOR BL121H 系列。
This specification covers the FPC CONNECTOR BL121H series

2.產品編碼 ORDERING INFORMATION

編碼原則

BL

121H

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R

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1	系列名稱 Series name	BL
2	系列號碼 Series number	121
	無鹵 Halogen Free	H-無鹵/Halogen Free
3	接點數量 Number of contacts	04 ~ 60
4	組合樣式 Assembly style	R – 臥式/雙接觸規格 / Right Angle/Dual Contact Type
5	包裝方式 Packaging	TU – TU 管包裝/ Tube Tape TA-帶狀捲式包裝/Embossed Tape
6	電鍍方式 Plating	ND – 鎳底鍍純錫(無鉛霧錫)/Tin over Nickel (Lead Free) GF – 鎳底鍍金 1μ”~3μ”/ 1μ”~3μ”Gold flash over Nickel

3. 外觀尺寸 CONNECTOR DIMENSIONS

請參照圖面.See attached drawings.

4. 材質 MATERIAL

絕緣膠體 Housing：L.C.P.

顏色 Color：米色 Beige

耐燃等級(UL94V-0) / Flammability Rating (UL94V-0)

導電端子 Contacts：黃銅 / Brass

固定檔片 Stopper：黃銅 / Brass

電鍍方式 Plating: 視訂單需求 / See Ordering Information

5.建議 P.C.B LAYOUT 圖 ACCOMMODATED P.C.B LAYOUT

請參照圖面。
See attached drawings.

6. 等級 RATING

項 目 ITEM	規 格 Standard
最大容許電壓 Operating Voltage(Max.)	AC50V , DC50V
最大容許電流 Current Rating(Max.)	AC0.4A , DC0.4A
使用溫度範圍 Operating Temperature	-55°C ~ +85°C (包含電流通過所產生的上昇溫度) -55°C ~ +85°C (Including terminal temperature rise)

7. 性能 PERFORMANCE

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT
外觀檢測 Examination of Product	目視外觀無任何損壞異狀。 No Damage.	參考產品圖面規範 Meets requirements of product drawing and specification.
電氣特性 ELECTRICAL PERFORMANCE		
接觸阻抗 Contact Resistance	將樣品與適合之 FPC 連接，測試電壓 20mV，限電流 10mA 下進行阻抗測試。 Mate applicable FPC and measure by dry circuit, 20mV Max, 10mA.	30 mΩ 以下 30 mΩ Max.
絕緣阻抗 Insulation Resistance	將樣品與適合之 FPC 連接，提供相鄰端子間測試電壓 500V DC 進行絕緣阻抗測試。 (MIL-STD-202 Method 302, Condition B) Mate applicable FPC and apply 500V DC between adjacent terminal or ground. (MIL-STD-202 Method 302, Condition B)	50 MΩ 以上 50 MΩMin.
耐電壓 Dielectric Strength	將樣品與適合之 FPC 連接，相鄰端子間需可承受 250V AC(rms) 1 分鐘。 (MIL-STD-202, Method 301) Measure by applying test potential between the adjacent contacts. Current Voltage : 250V AC rms., for 1 minute (MIL-STD-202, Method 301)	無沿面放電，或發生閃爍。 No creeping discharge or flashes occur.

BL121H series

SUNCAGEY 0.5mm Pitch FPC / FFC CONNECTOR , LIF SMT type

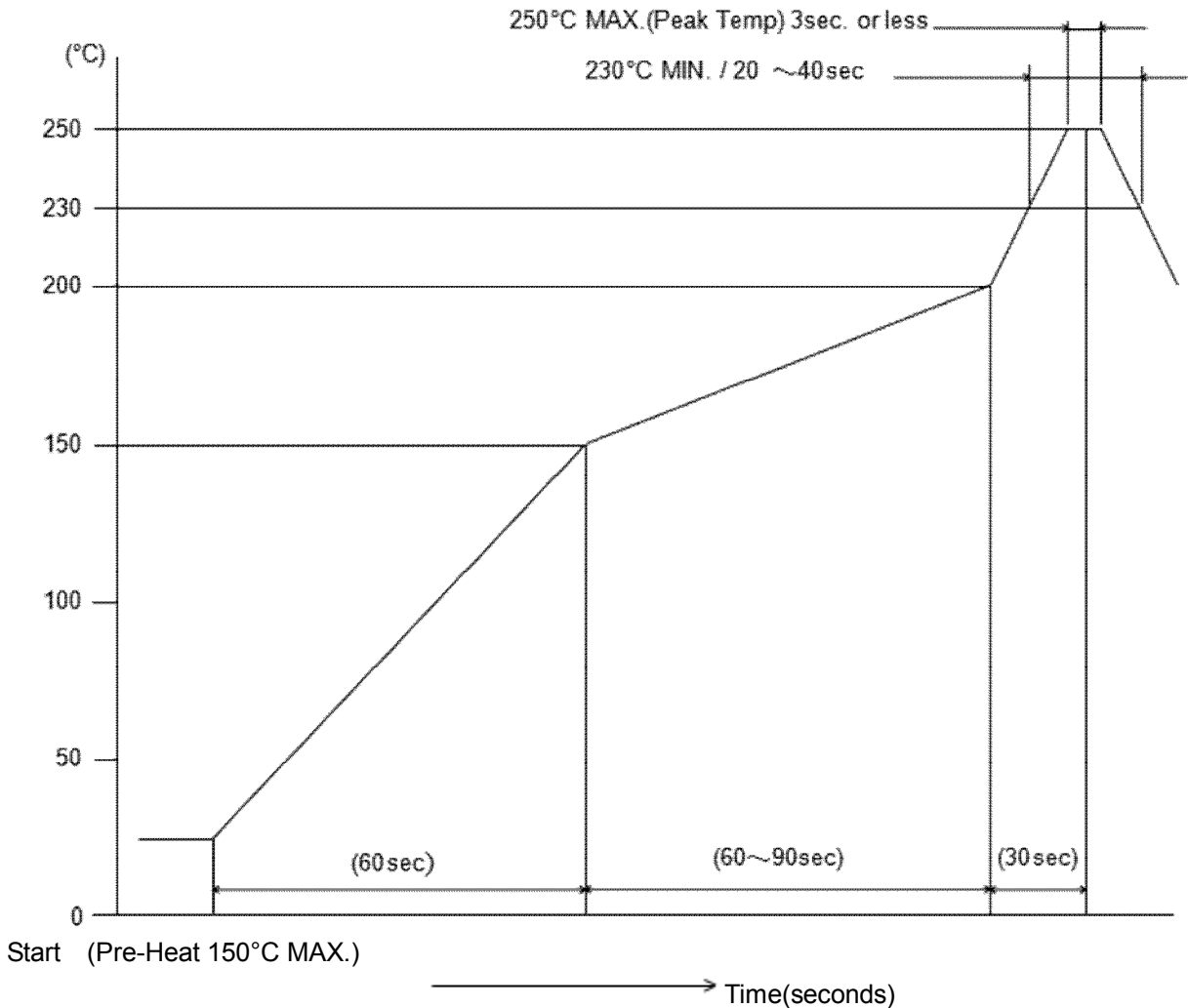
項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT	
機械特性 MECHANICAL PERFORMANCE			
耐久性 Durability	使用 0.3mm FPC 排線作測試，反覆作動 20 次。 Mate and unmated connectors for 20cycles. Applicable Cable : 0.3mm thickness FPC	接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
FPC/FFC 結合力/脫離力 FPC/FFCInsertion/ Separation Force.	軸向負荷速度每分鐘位移 25±3mm 進行 FPC 保持力測試。 Apply axial load to FPC. Operation speed : 25±3 mm/min.	結合力 / Insertion force = Pos.× 0.08kgf Max. 脫離力/ Separation force = Pos.× 0.03kgf Min.	
端子保持力 Contact Retention Force	軸向負荷速度每分鐘位移 25±3mm 進行端子保持力測試。 Apply an axial pull-off load to contact and solder peg. Operation speed : 25±3 mm/min.	0.03kgf 以上 0.03kgf Min.	
環境特性及其他性能 ENVIRONMENTAL PERFORMANCE AND OTHERS			
耐振性 Vibration	通過 DC 電流 1mA，位移相對距離 1.5mm，振動週期 10 ~ 55 ~ 10 Hz 在 1 分鐘內，持續 2 小時，方向在 X,Y,Z 軸做測試。 (MIL-STD-202 Method 201) Mate connectors and subject to the following vibration conditions, for period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Amplitude : 1.5mm P-P Frequency : 10 ~ 55 ~ 10 Hz in 1 minute. Duration : 2 hours in each of X,Y,Z axes. (MIL-STD-202 Method 201)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
		瞬間斷電 Discontinuity	1μsec 以下 1μsec Max.
耐衝擊性 Shock	將樣品與適合之 FPC 連接，通過 DC 1 mA 測試條件，連續測試 3 次。 在 X、Y、Z 3 軸 6 個垂直方向施予重力加速度 490m/s ² {50G} 衝擊。 (MIL-STD-202 Method 213) Mate applicable FPC and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (Total of 18 shocks) Peak value : 490m/s ² {50G} (MIL-STD-202 Method 213)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
		瞬間斷電 Discontinuity	1μsec 以下 1μsec Max.

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT	
耐濕循環 Humidity- Cycling	將樣品與適合之 FPC 連接，置於環境溫度 25~65°C，相對溼度 95%，測試 10 cycles，再置放於室溫下 1~2 小時。(MIL-STD-202 Method 106) Mate applicable FPC and expose to 25~65°C, relative humidity 95% for 10 cycles. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours. (MIL-STD-202 Method 106)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
冷熱衝擊 Temperature Cycling	將樣品與適合之 FPC 連接，承受 25 cycles 冷熱衝擊後，置放於室溫下 1~2 小時。 (MIL-STD-202, Method 107, Condition A-1) Mate applicable FPC and subject to the following conditions for 25 cycles. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 1 cycle time : a) -55±3°C 30minutes b) +85±3°C 30minutes (Transit time shall be with in 3 minutes) (MIL-STD-202, Method 107, Condition A-1)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
鹽水噴霧 Salt Spray	將樣品與適合之 FPC 連接，使用 5±1%濃度鹽水，測試溫度 35±2°C，測試時間 48 小時，後於室溫下使用清水沖洗後再乾燥。(MIL-STD-202 Method 101) Mate applicable FPC and expose to the following salt mist conditions. Upon 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 hours Ambient temperature : 35±2°C (MIL-STD-202 Method 101)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
焊錫性 Solderability	錫溫 245±5°C，將導電端子浸入錫爐液面，焊錫時間 3±0.5 秒(使用無含鉛之錫)。 (MIL-STD-202 Method 208) Temperature : 245±5°C , 3±0.5sec. <i>For Tin (Lead Free) using</i> (MIL-STD-202 Method 208)	錫區覆蓋需面積 95%以上，並不得有漏焊針孔現象 The test area shall be covered more than 95% of immersed area with fresh solder.	

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT
焊錫耐熱性 Resistanceto Soldering	使用紅外線迴焊時請參考第 8.1 點。 When reflowing...Refer to paragraph 8.1. <u>使用烙鐵手焊時須可符合下述焊錫條件</u> <u>Soldering iron method</u> (使用無含鉛之錫) Soldering time : 3 ±0.5seconds. Solder temperature : 380±5°C For Tin (Lead Free) using	目視外觀無任何損壞異狀 No Damage

8.1 紅外線迴焊溫度曲線 INFRARED REFLOW CONDITION

■ Tin (Lead Free)



溫度條件 TEMPERATURE CONDITION GRAPH

(基板表面溫度) (TEMPERATURE ON BOARD PATTERN SIDE)

9.TUBE PACKAGE SPECIFICATION

No. of Contacts	(?Pcs)/Tube	(?Pcs)?Tube/Inner Box	(?Pcs)?Inner Box/Carton
4	(112) / 1	(30464) / 272 / 1	(121856) / 4 / 1
5	(102) / 1	(27744) / 272 / 1	(110976) / 4 / 1
6	(94) / 1	(25568) / 272 / 1	(102272) / 4 / 1
7	(88) / 1	(23936) / 272 / 1	(95744) / 4 / 1
8	(82) / 1	(22304) / 272 / 1	(89216) / 4 / 1
9	(77) / 1	(20944) / 272 / 1	(83776) / 4 / 1
10	(72) / 1	(19584) / 272 / 1	(78336) / 4 / 1
11	(68) / 1	(18496) / 272 / 1	(73984) / 4 / 1
12	(65) / 1	(17680) / 272 / 1	(70720) / 4 / 1
13	(62) / 1	(16864) / 272 / 1	(67456) / 4 / 1
14	(59) / 1	(16048) / 272 / 1	(64192) / 4 / 1
15	(56) / 1	(15232) / 272 / 1	(60928) / 4 / 1
16	(53) / 1	(14416) / 272 / 1	(57664) / 4 / 1
17	(51) / 1	(13872) / 272 / 1	(55488) / 4 / 1
18	(49) / 1	(13328) / 272 / 1	(53312) / 4 / 1
19	(47) / 1	(12784) / 272 / 1	(51136) / 4 / 1
20	(46) / 1	(12512) / 272 / 1	(50048) / 4 / 1
21	(44) / 1	(11968) / 272 / 1	(47872) / 4 / 1
22	(42) / 1	(11424) / 272 / 1	(45696) / 4 / 1
23	(41) / 1	(11152) / 272 / 1	(44608) / 4 / 1
24	(40) / 1	(10880) / 272 / 1	(43520) / 4 / 1
25	(38) / 1	(10336) / 272 / 1	(41344) / 4 / 1
26	(37) / 1	(10064) / 272 / 1	(40256) / 4 / 1
27	(36) / 1	(9792) / 272 / 1	(39168) / 4 / 1
28	(35) / 1	(9520) / 272 / 1	(38080) / 4 / 1
29	(34) / 1	(9248) / 272 / 1	(36992) / 4 / 1
30	(33) / 1	(8976) / 272 / 1	(35904) / 4 / 1
31	(32) / 1	(8704) / 272 / 1	(34816) / 4 / 1
32	(31) / 1	(8432) / 272 / 1	(33728) / 4 / 1
33	(31) / 1	(8432) / 272 / 1	(33728) / 4 / 1
34	(30) / 1	(8160) / 272 / 1	(32640) / 4 / 1
35	(29) / 1	(7888) / 272 / 1	(31552) / 4 / 1
36	(28) / 1	(7616) / 272 / 1	(30464) / 4 / 1
37	(28) / 1	(7616) / 272 / 1	(30464) / 4 / 1
38	(27) / 1	(7344) / 272 / 1	(29376) / 4 / 1
39	(27) / 1	(7344) / 272 / 1	(29376) / 4 / 1
40	(26) / 1	(7072) / 272 / 1	(28288) / 4 / 1
41	(25) / 1	(6800) / 272 / 1	(27200) / 4 / 1
42	(25) / 1	(6800) / 272 / 1	(27200) / 4 / 1
43	(24) / 1	(6528) / 272 / 1	(26112) / 4 / 1
44	(24) / 1	(6528) / 272 / 1	(26112) / 4 / 1
45	(23) / 1	(6256) / 272 / 1	(25024) / 4 / 1
46	(23) / 1	(6256) / 272 / 1	(25024) / 4 / 1
47	(23) / 1	(6256) / 272 / 1	(25024) / 4 / 1
48	(22) / 1	(5984) / 272 / 1	(23936) / 4 / 1
49	(22) / 1	(5984) / 272 / 1	(23936) / 4 / 1
50	(21) / 1	(5712) / 272 / 1	(22848) / 4 / 1
51	(21) / 1	(5712) / 272 / 1	(22848) / 4 / 1
52	(21) / 1	(5712) / 272 / 1	(22848) / 4 / 1
53	(20) / 1	(5440) / 272 / 1	(21760) / 4 / 1
54	(20) / 1	(5440) / 272 / 1	(21760) / 4 / 1
55	(20) / 1	(5440) / 272 / 1	(21760) / 4 / 1
56	(19) / 1	(5168) / 272 / 1	(20672) / 4 / 1
57	(19) / 1	(5168) / 272 / 1	(20672) / 4 / 1
58	(19) / 1	(5168) / 272 / 1	(20672) / 4 / 1
59	(18) / 1	(4896) / 272 / 1	(19584) / 4 / 1
60	(18) / 1	(4896) / 272 / 1	(19584) / 4 / 1

Tube Material : PVC Tube.

Export Carton Layer : 5 Layer.

Inner Box Size : 65cm x 11cm x 6.5cm.

Inner Box Layer : 3 Layer.

Export Carton Size : 67cm x 24.5cm x 16cm.

10.TAPE AND REEL PACKAGE SPECIFICATION

10-1. 帶狀捲式包裝尺寸：請參照圖面 / Tape and Reel Dimensions: See attached drawings.

10-2. 規格 / Specification

No. of Contacts	Width	?Pcs/Reel	?Reels/Cartron	CUFT
4	16	2.5K / 1	9 / 1	1.5
5	16	2.5K / 1	9 / 1	1.5
6	16	2.5K / 1	9 / 1	1.5
7	16	2.5K / 1	9 / 1	1.5
8	16	2.5K / 1	9 / 1	1.5
9	16	2.5K / 1	9 / 1	1.5
10	16	2.5K / 1	9 / 1	1.5
11	24	2.5K / 1	7 / 1	1.5
12	24	2.5K / 1	7 / 1	1.5
13	24	2.5K / 1	7 / 1	1.5
14	24	2.5K / 1	7 / 1	1.5
15	24	2.5K / 1	7 / 1	1.5
16	24	2.5K / 1	7 / 1	1.5
17	24	2.5K / 1	7 / 1	1.5
18	24	2.5K / 1	7 / 1	1.5
19	24	2.5K / 1	7 / 1	1.5
20	24	2.5K / 1	7 / 1	1.5
21	24	2.5K / 1	7 / 1	1.5
22	24	2.5K / 1	7 / 1	1.5
23	24	2.5K / 1	7 / 1	1.5
24	24	2.5K / 1	7 / 1	1.5
25	24	2.5K / 1	7 / 1	1.5
26	24	2.5K / 1	7 / 1	1.5
27	32	2.5K / 1	6 / 1	1.5
28	32	2.5K / 1	6 / 1	1.5
29	32	2.5K / 1	6 / 1	1.5
30	32	2.5K / 1	6 / 1	1.5
31	32	2.5K / 1	6 / 1	1.5
32	32	2.5K / 1	6 / 1	1.5
33	32	2.5K / 1	6 / 1	1.5
34	32	2.5K / 1	6 / 1	1.5
35	44	2.5K / 1	5 / 1	1.5
36	44	2.5K / 1	5 / 1	1.5
37	44	2.5K / 1	5 / 1	1.5
38	44	2.5K / 1	5 / 1	1.5
39	44	2.5K / 1	5 / 1	1.5
40	44	2.5K / 1	5 / 1	1.5
41	44	2.5K / 1	5 / 1	1.5
42	44	2.5K / 1	5 / 1	1.5
43	44	2.5K / 1	5 / 1	1.5
44	44	2.5K / 1	5 / 1	1.5
45	44	2.5K / 1	5 / 1	1.5
46	44	2.5K / 1	5 / 1	1.5
47	44	2.5K / 1	5 / 1	1.5
48	44	2.5K / 1	5 / 1	1.5
49	44	2.5K / 1	5 / 1	1.5
50	44	2.5K / 1	5 / 1	1.5
51	44	2.5K / 1	5 / 1	1.5
52	44	2.5K / 1	5 / 1	1.5
53	44	2.5K / 1	5 / 1	1.5
54	44	2.5K / 1	5 / 1	1.5
55	44	2.5K / 1	5 / 1	1.5
56	44	2.5K / 1	5 / 1	1.5
57	56	2.5K / 1	4 / 1	1.5
58	56	2.5K / 1	4 / 1	1.5
59	56	2.5K / 1	4 / 1	1.5
60	56	2.5K / 1	4 / 1	1.5

Export Carton Layer: 5 LayerExport Carton Size:35× 35× 34cm.