

1. 適用範圍 SCOPE

RoHS COMPLIANT PRODUCT

本規格書適用於 FPC/FFC CONNECTOR BL117H 系列
This specification covers the FPC/FFC CONNECTOR BL117H series.

2.產品編碼 ORDERING INFORMATION

編碼原則： BL 117H - XX XX - XX XX
Coding Principles 1 2 3 4 5 6

1	系列名稱 Series name	BL
2	系列號碼 Series number	117
	無鹵 Halogen Free	H-無鹵/Halogen Free
3	接點數量 Number of contacts	04 ~ 24
4	組合樣式 Assembly style	RU-臥式/上接觸規格 /Right Angle/Upper Contact Type RL-臥式/下接觸規格 /Right Angle/Lower 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)
蓋子 Actuator： L.C.P
顏色 Color：黑色 Black
耐燃等級(UL94V-0)/Flammability Rating (UL94V-0)
導電端子 Contacts: 磷青銅/Phosphor Bronze
固定片 Solder Pad: 黃銅/Brass
端子電鍍方式
Contacts Plating： 視訂單需求 See Ordering Information
固定片電鍍方式
Solder Pad Plating： 鎳底鍍純錫(無鉛霧錫)/Tin (Lead Free) over Nickel

5. RECOMMENDED FPC / FFC

請參照圖面.

See attached drawings.

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

請參照圖面.

See attached drawings.

7. 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.)	AC0.5A , DC0.5A
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)

8. 性能 PERFORMANCE

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT
外觀檢測 Examination of Product	目視檢查無機械損傷。 Visual inspection. No physical damage.	符合產品圖面和規範要求 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)	500 MΩ 以上 500 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 500V AC(rms) 1 分鐘。 (MIL-STD-202 Method 301) Mate applicable FPC, apply 500V AC(rms) for 1 minute between adjacent terminal or ground. (MIL-STD-202 Method 301)	目視外觀無任何損壞異狀。 無沿面放電，或發生閃爍。 No Breakdown. No creeping discharge or flashes occur.

BL117H series

SUNCAGEY 1.0mm Pitch FPC / FFC CONNECTOR , ZIF SMT type

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT	
機械特性 MECHANICAL PERFORMANCE			
耐久性 Durability	將蓋子與 0.3mm 標準 FPC 反覆連接，以每分鐘小於 10 cycles 的速度，連續操作 20 cycles。 Insert and withdraw actuator up to 20 cycles at the speed rate of less than 10 cycles/minute. Applicable Cable：0.3mm thickness FPC.	接觸阻抗 Contact Resistance	30 mΩ 以下 30 mΩ Max.
FPC 保持力 FPC Retention Force	插入 0.3mm 標準 FPC，將蓋子蓋上，以操作速度每分鐘位移 25±3mm 進行 FPC 保持力測試。 Insert the actuator, pull 0.3mm of the FPC at a rate of 25±3mm per minute.	Pos. x 0.03kgf 以上 Pos. x 0.03kgf Min.	
端子保持力 Contact Retention Force	端子以操作速度每分鐘位移 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 REQUIRMENT	
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至 Housing 距離錫面 0.3mm 位置，焊錫時間 3±0.5 秒。(MIL-STD-202 Method 208) Tip of solder tails and fitting nails into the molten solder (held at 245±5°C) up to 0.3mm from the bottom of the housing for 3±0.5 seconds. (MIL-STD-202 Method 208)	潤濕性 Solder Wetting	潤濕面積 95%以上，並不得有漏焊針孔現象 95% of immersed area must show no voids, pin holes.

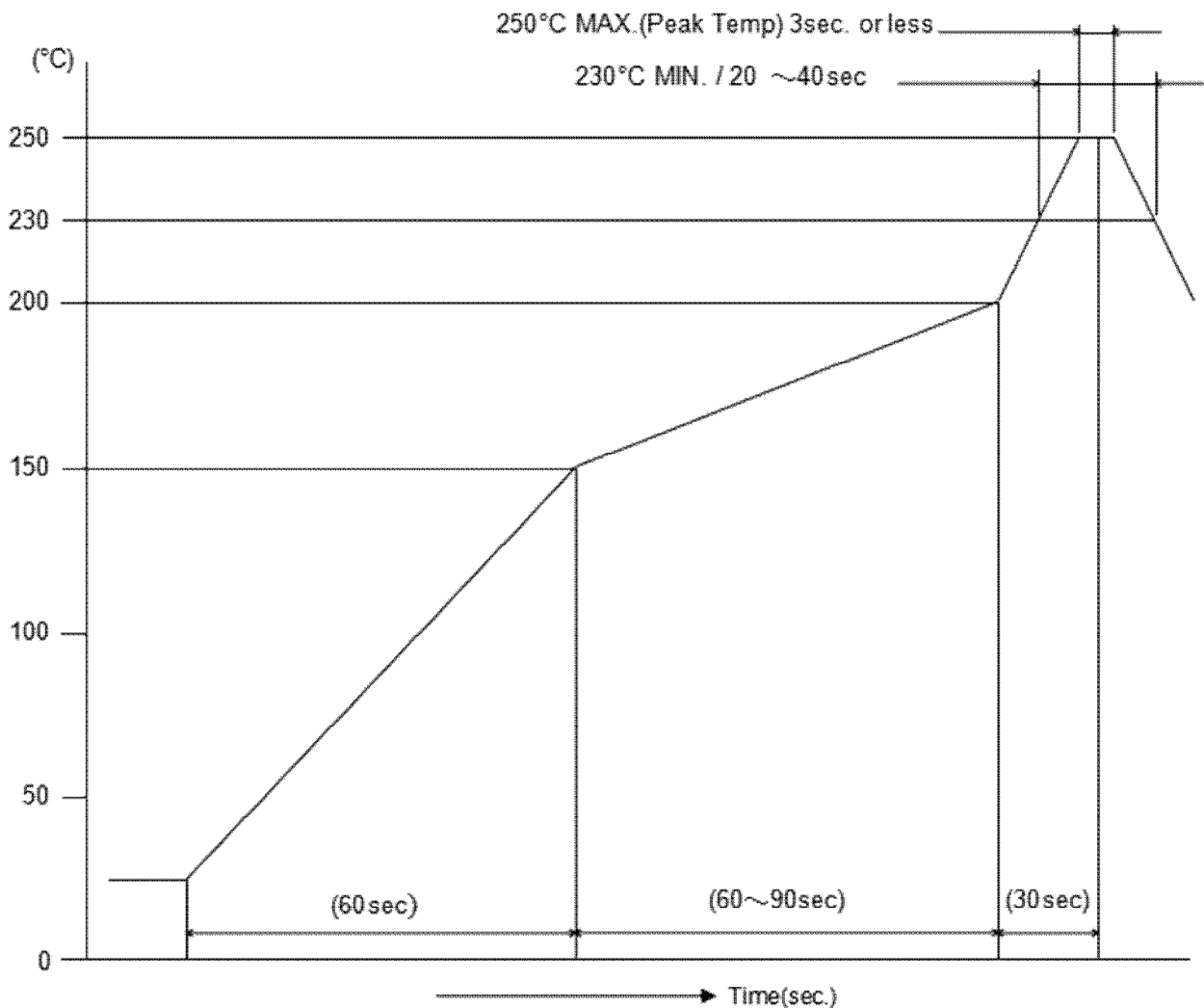
BL117H series

SUNCAGEY 1.0mm Pitch FPC / FFC CONNECTOR , ZIF SMT type

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT	
焊錫耐熱性 Resistance to Soldering Heat	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錫錫條件</u> <u>Soldering iron method</u> 0.3mm from terminal tip and fitting nail tip. Soldering time : 5 seconds Max. Solder temperature : 380± 5°C	外觀 Appearance	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)



NOTE: Please check the re-flow soldering condition by your own devices beforehand .
Because the condition changes by the soldering devices, p.c. boards, and so on.

9. TUBE PACKAGE SPECIFICATION

No. of Contacts	?Pcs / Tube	(?Pcs)?Tube / Inner Box	(?Pcs)?Inner Box / Carton
4	59 / 1	(16048) 272 / 1	(64192) 4 / 1
5	54 / 1	(14688) 272 / 1	(58752) 4 / 1
6	50 / 1	(13600) 272 / 1	(54400) 4 / 1
7	46 / 1	(12512) 272 / 1	(50048) 4 / 1
8	43 / 1	(11696) 272 / 1	(46784) 4 / 1
9	40 / 1	(10880) 272 / 1	(43520) 4 / 1
10	37 / 1	(10064) 272 / 1	(40256) 4 / 1
11	35 / 1	(9520) 272 / 1	(38080) 4 / 1
12	33 / 1	(8976) 272 / 1	(35904) 4 / 1
13	32 / 1	(8704) 272 / 1	(34816) 4 / 1
14	30 / 1	(8160) 272 / 1	(32640) 4 / 1
15	29 / 1	(7888) 272 / 1	(31552) 4 / 1
16	27 / 1	(7344) 272 / 1	(29376) 4 / 1
17	26 / 1	(7072) 272 / 1	(28288) 4 / 1
18	25 / 1	(6800) 272 / 1	(27200) 4 / 1
19	24 / 1	(6528) 272 / 1	(26112) 4 / 1
20	23 / 1	(6256) 272 / 1	(25024) 4 / 1
21	22 / 1	(5984) 272 / 1	(23936) 4 / 1
22	21 / 1	(5712) 272 / 1	(22848) 4 / 1
23	21 / 1	(5712) 272 / 1	(22848) 4 / 1
24	20 / 1	(5440) 272 / 1	(21760) 4 / 1

Tube Material : PVC Tube.

Inner Box Layer : 3.

Export Carton Layer : 5

Inner Box Size : 65cm x 11cm x 6.5cm.Export Carton Size : 67cm x 24.5cm x 16cm.

BL117H series

SUNCAGEY 1.0mm Pitch FPC / FFC CONNECTOR , ZIF SMT type

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	RL / RU TYPE			
	Width	?Pcs/Reel	?Reels/Carton	CUFT
4	24	3K / 1	7 / 1	1.5
5	24	3K / 1	7 / 1	1.5
6	24	3K / 1	7 / 1	1.5
7	24	3K / 1	7 / 1	1.5
8	24	3K / 1	7 / 1	1.5
9	24	3K / 1	7 / 1	1.5
10	24	3K / 1	7 / 1	1.5
11	32	3K / 1	6 / 1	1.5
12	32	3K / 1	6 / 1	1.5
13	32	3K / 1	6 / 1	1.5
14	32	3K / 1	6 / 1	1.5
15	32	3K / 1	6 / 1	1.5
16	32	3K / 1	6 / 1	1.5
17	44	3K / 1	5 / 1	1.5
18	44	3K / 1	5 / 1	1.5
19	44	3K / 1	5 / 1	1.5
20	44	3K / 1	5 / 1	1.5
21	44	3K / 1	5 / 1	1.5
22	44	3K / 1	5 / 1	1.5
23	44	3K / 1	5 / 1	1.5
24	44	3K / 1	5 / 1	1.5

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