

承 認 書

Specification For Approval

貴 公 司 昆達電腦科技(昆山)有限公司

產品名稱 FPC/FFC-CONN.

[0.3m/m Pitch ZIF 臥式 SMT下接點掀蓋式

[LEAD FREE]

料 號 291000154507 /BL125-45RL-TAGF

日 期 07/08/2009

客戶承認簽名蓋章



臺灣日慎精工股份有限公司

TAIWAN SUNCAGEY INDUSTRIAL CO., LTD

文件名稱： BL125 SERIES STANDARD SPECIFICATION

制訂單位： 研發單位

文件編號： QRD-C073

制訂日期： 96.07.24

版 本： 0

分發單位：

頁 數： 9

修 訂 記 錄

修訂日期	修 訂 內 容 摘 要	頁次	版本
94.12.19	新規	6	A
95.02.07	接點數量增加 29P，Actuator 原材質 NY46 改為 LCP，平整度原 0.1mm 改為 0.08mm，增加 TA 包裝圖。	1、6	B
95.05.04	1.端子保持力原規格 0.8 {0.08Kgf} Min. 改為 Pos. x 0.08Kgf {0.8N} Min. 2.焊錫性：將導電端子浸入錫爐液面至 Housing 距離錫面 0.3mm 位置改	2、5	C
95.07.31	接點數量增加 17P	1、6	D
95.08.29	接點數量增加 61P	1、6	E
96.04.12	TA 圖變更成品包裝方向	1-6	F
96.05.18	71PIN 改用 44mm 下帶	6	G
96.06.22	原 QS000033 更改文件編號為 QRD-C073	1-6	H
96.07.24	刪除 FPC 拉拔力（原第 9 項），改為 DIRECTION OF	2、6	I
96.09.26	取消:ND - 鎳底鍍純錫(無鉛霧錫) Tin over Nickel (Lead Free)，追加 Instruction upon usage 操作指示	1、6-9	J
96.12.07	新增加 67PIN	1、9	K
98.03.24	新增 43PIN	1、9	L
98.04.06	新增 11PIN、增加電鍍方式：GF	1、9	M
98.05.15	新增 09PIN	1、9	N
98.06.23	修改電鍍 GF 鹽霧測試條件	4	O

核 准

審 查

制 訂

陳彥霖 代

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1.適用範圍 SCOPE

本規格書適用於 FPC CONNECTOR BL125 系列.

This specification covers the FPC CONNECTOR BL125 series.

2.產品編碼 ORDERING INFORMATION

PART NO. : **BL** **125** - **xx** **RL** - **TA** **xx**
1 **2** **3** **4** **5** **6**

1	系列名稱 Series name	BL
2	系列編號 Series number	125
3	接點數量 Number of contacts	9,11, 13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,49,51, 57,61,67,71
4	組合樣式 Assembly style	RL – 臥式/下接觸規格 Right Angle / Lower Contact Type
5	包裝方式 Packaging	TA – 帶狀捲式包裝 Embossed Tape
6	電鍍方式 Plating	3G – 鎳底鍍 3μ"金 3μ" Gold over Nickel GF – 鎳底鍍 1μ"~3μ"金 1μ"~3μ" Gold 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 : 白色 White
 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

固定檔片 Stopper : 磷青銅 Phosphor Bronze

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.)	30V AC
最大容許電流 Current Rating(Max.)	0.2A DC
使用溫度範圍 Operating Temperature	-25°C ~ +85°C (包含電流通過所產生的上昇溫度) -25°C ~ +85°C (Including terminal temperature rise)

7.性能 PERFORMANCE

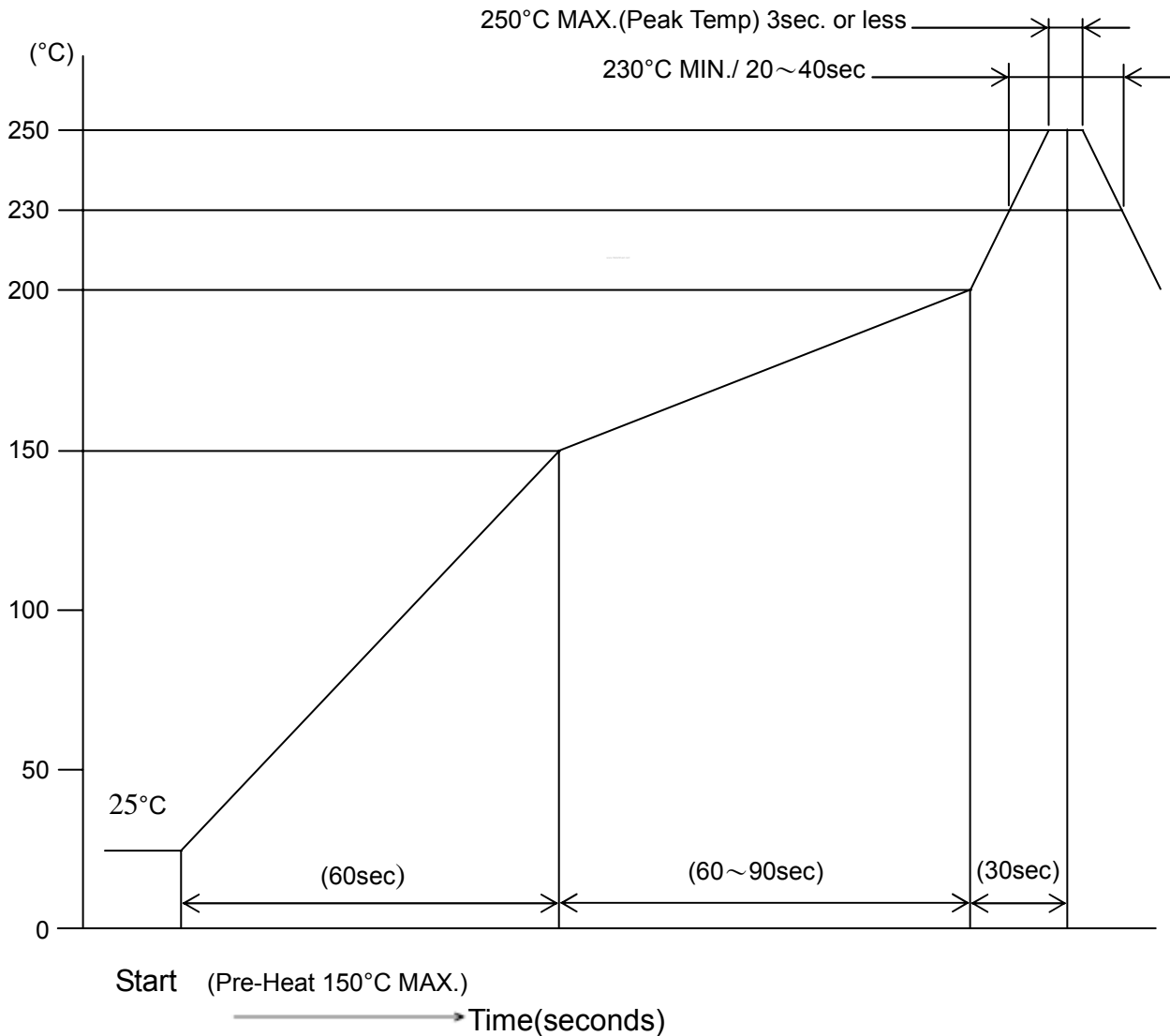
項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT	
電氣特性 ELECTRICAL PERFORMANCE			
接觸阻抗 Contact Resistance	將樣品與適合之 FPC 連接，測試電壓 20mV，限電流 10mA 下進行阻抗測試。 (JIS C5402 5.4) Mate applicable FPC and measure by dry circuit, 20mV Max, 10mA. (JIS C5402 5.4)	40 mΩ 以下. 40 mΩ Max.	
絕緣阻抗 Insulation Resistance	將樣品與適合之 FPC 連接，提供相鄰端子間測試電壓 500V DC 進行絕緣阻抗測試。 (JIS C5402 5.2 / MIL-STD-202 Method 302) Mate applicable FPC and apply 500V DC between adjacent terminal or ground. (JIS C5402 5.2 / MIL-STD-202 Method 302)	50 MΩ 以上. 50 MΩ Min.	
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。 (JIS C5402 5.1 / MIL-STD-202 Method 301) Mate applicable FPC, apply 250V AC(rms) for 1 minute between adjacent terminal or ground. (JIS C5402 5.1 / MIL-STD-202 Method 301)	目視外觀無任何損壞異狀 No Breakdown	
機械特性 MECHANICAL PERFORMANCE			
FPC 保持力 FPC Retention Force	將蓋子蓋上，與 FPC 連接，以操作速度每分鐘位移 25±3mm 進行 FPC 保持力測試。 Insert the actuator, pull the FPC at a rate of 25±3mm per minute.	Pos. x 0.15N 以上 Pos. x 0.15N Min.	
端子保持力 Terminal Retention Force	端子與 Housing 組裝後，以操作速度每分鐘位移 25±3mm 將端子拔出 Housing，進行端子保持力測試。 Apply axial pull out force at the rate of 25±3 mm/minute on the terminal assembled in the housing.	Pos. x 0.08Kgf {0.8N} 以上 Pos. x 0.08Kgf {0.8N} Min.	
環境特性及其他性能 ENVIRONMENTAL PERFORMANCE AND OTHERS			
蓋子往返操作測試 Repeated Actuator Insertion/ Withdrawal	將蓋子與 FPC 反覆連接，以每分鐘小於 10 cycles 連續操作 20 次。 Insert and withdraw actuator up to 20 cycles at the speed rate of less than 10 cycles/minute.	接觸阻抗 Contact Resistance	60 mΩ 以下. 60 mΩ Max.
溫昇 Temperature Rise	量測通過 FPC 最大容許電流時，樣品接觸點之溫昇。 (UL498) Mate applicable FPC and measure the temperature rise of contact when the maximum AC rated current is passed. (UL498)	溫昇 Temperature rise	30°C 以下. 30°C Max.

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT	
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	60 mΩ 以下。 60 mΩ Max.
		瞬間斷電 Discontinuity	1 μsec 以下。 1 μsec 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。 (JIS C0041/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} (JIS C0041 / 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	60 mΩ 以下。 60 mΩ Max.
		瞬間斷電 Discontinuity	1 μsec Max.
耐熱性 Heat Resistance	將樣品與適合之 FPC 連接，置於環境溫度 85±2°C 測試時間 96 小時，再置放於室溫下 1~2 小時。 (JIS C0021 / MIL-STD-202 Method 108) Mate applicable FPC and expose to 85±2°C for 96 hours. 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. (JIS C0021 / MIL-STD-202 Method 108)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	60 mΩ 以下。 60 mΩ Max.
耐寒性 Cold Resistance	將樣品與適合之 FPC 連接，置於環境溫度 -40±2°C，測試時間 96 小時，再置放於室溫下 1~2 小時。 (JIS C0020) Mate applicable FPC and expose to -40±2°C for 96 hours. 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. (JIS C0020)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	60 mΩ 以下。 60 mΩ Max.
耐濕性 Humidity	將樣品與適合之 FPC 連接，置於環境溫度 60±2°C，相對溼度 90~95%，測試時間 96 小時，再置放於室溫下 1~2 小時。 (JIS C0022 / MIL-STD-202 Method 103) Mate applicable FPC and expose to 60 ± 2°C, relative humidity 90 to 95% for 96 hours. 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. (JIS C0022 / MIL-STD-202 Method 103)	外觀 Appearance	目視外觀無任何損壞異狀 No Damage
		接觸阻抗 Contact Resistance	60 mΩ 以下。 60 mΩ Max.
		耐電壓 Dielectric Strength	需能符合耐電壓測試 No Breakdown
		絕緣阻抗 Insulation Resistance	20 MΩ 以上。 20 MΩ Min.

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIRMENT	
<p>冷熱衝擊 Temperature Cycling</p>	<p>將樣品與適合之 FPC 連接，承受 5 cycles 冷熱衝擊後，置放於室溫下 1~2 小時。 1 cycle time 如下 a) -55±3°C 30 分鐘 b) +85±3°C 30 分鐘 (JIS C0025) Mate applicable FPC and subject to the following conditions for 5 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 a) -55±3°C 30minutes b) +85±3°C 30minutes (Transit time shall be with in 3 minutes) (JIS C0025)</p>	<p>外觀 Appearance</p>	<p>目視外觀無任何損壞異狀 No Damage</p>
<p>鹽水噴霧 Salt Spray</p>	<p>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±4 小時(鍍金 3G)，24±4 小時(鍍金 GF)後於室溫下使用清水沖洗後再乾燥。 (JIS C0023 / 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 ± 4 hours(Gold Plating 3G) 24± 4 hours(Gold Plating GF) Ambient temperature : 35 ± 2°C (JIS C0023 / MIL-STD-202 Method 101)</p>	<p>外觀 Appearance</p>	<p>目視外觀無任何損壞異狀 No Damage</p>
<p>二氧化硫(氣體) SO₂ Gas</p>	<p>將樣品與適合之 FPC 連接，將其置放於 50±5 ppm 濃度二氧化硫氣體中，測試溫度 40±2°C，測試時間 24 小時。 Mate applicable FPC and expose them to the following SO₂ gas atmosphere. Temperature 40 ± 2°C Gas Density 50 ± 5 ppm Duration 24 hours</p>	<p>外觀 Appearance</p>	<p>目視外觀無任何損壞異狀 No Damage</p>
<p>氨(氣體) NH₃ Gas</p>	<p>暴露來自濃度 28%阿摩尼亞之蒸發氣體 NH₃ 中，測試時間 40 分鐘。 40 minutes exposure to NH₃ gas evaporating from 28% Ammonia solution.</p>	<p>外觀 Appearance</p>	<p>目視外觀無任何損壞異狀 No Damage</p>
		<p>接觸阻抗 Contact Resistance</p>	<p>60 mΩ 以下. 60 mΩ Max.</p>

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT	
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 0.1mm 位置，焊錫時間 3±0.5 秒。 Tip of solder tails and fitting nails into the molten solder (held at 245±5°C) up to 0.1mm from the bottom of the housing for 3±0.5 seconds.	潤濕性 Solder Wetting	潤濕面積 75%以上，並不得有漏焊針孔現象 75% of immersed area must show no voids, pin holes.
焊錫耐熱性 Resistance to Soldering Heat	使用紅外線迴焊時請參考第 8 點 When reflowing...Refer to paragraph 8. <u>使用烙鐵手焊時須可符合下述錫錫條件</u> <u>Soldering iron method</u> 0.2mm from terminal tip and fitting nail tip. Soldering time : 5 seconds Max. Solder temperature : 370~400°C	外觀 Appearance	目視外觀無任何損壞異狀 No Damage

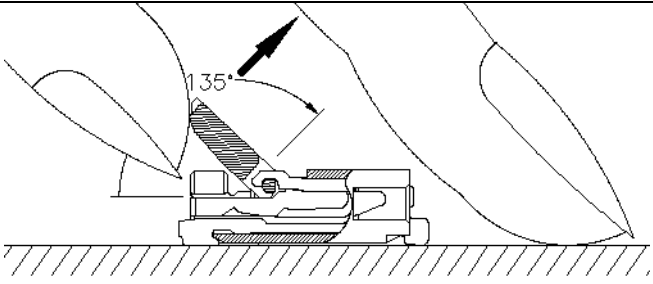
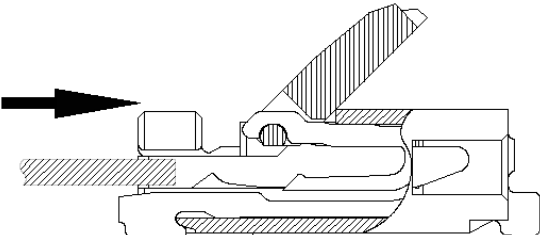
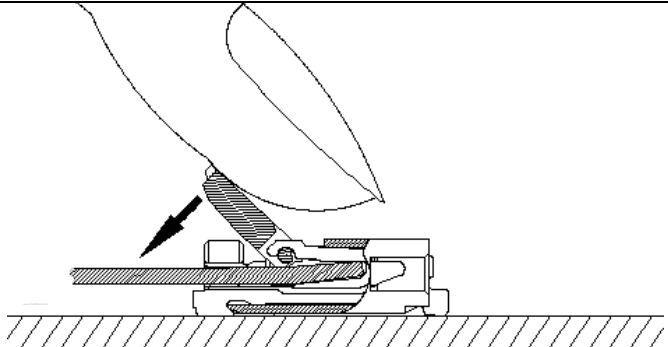
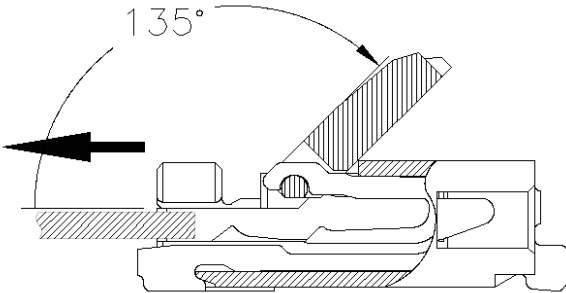
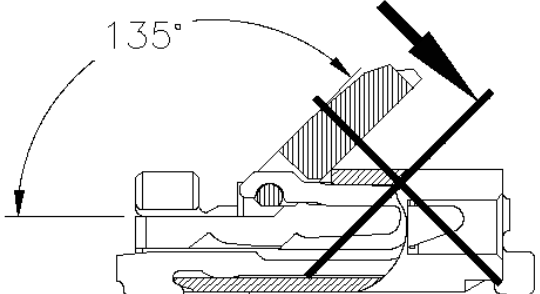
8. 紅外線迴焊溫度曲線 INFRARED REFLOW CONDITION

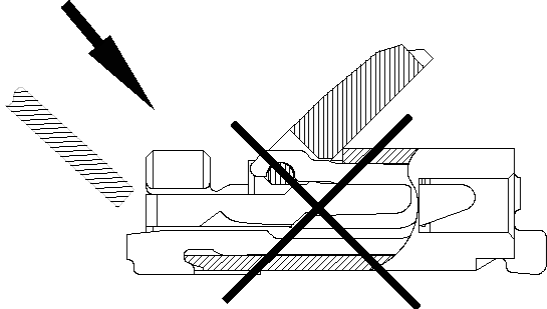
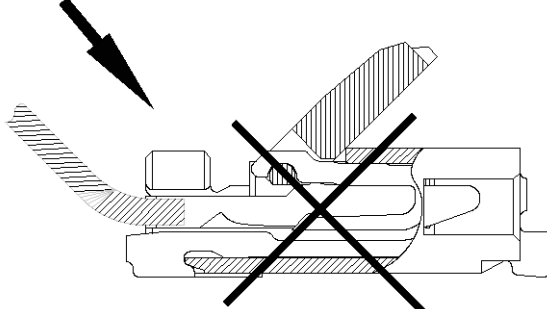
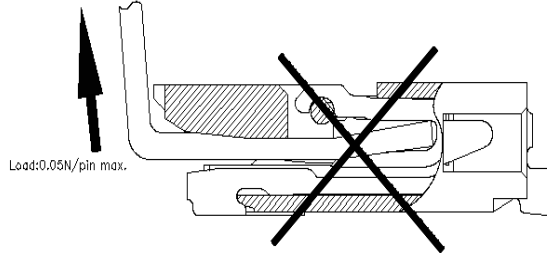
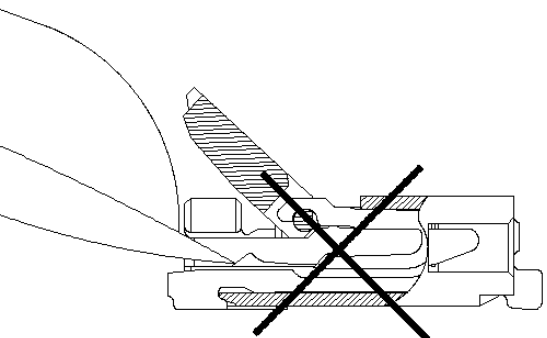
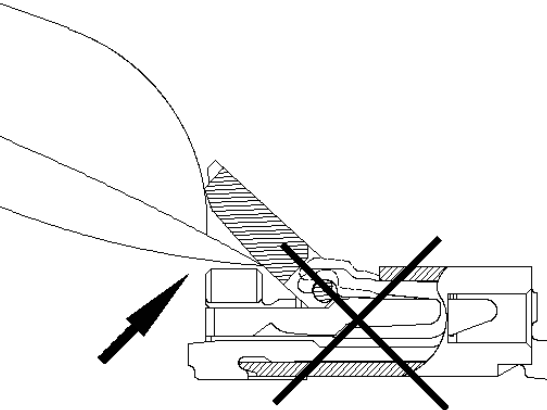


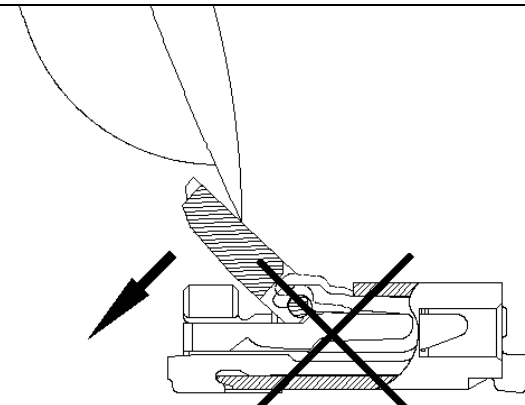
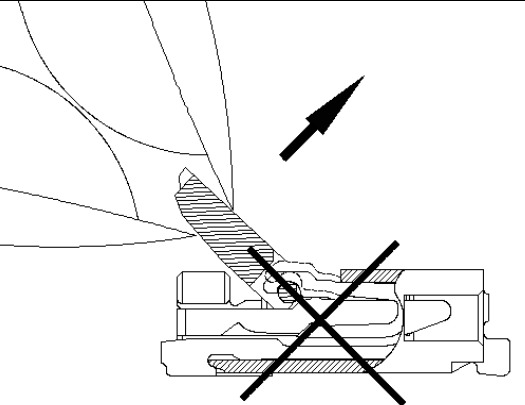
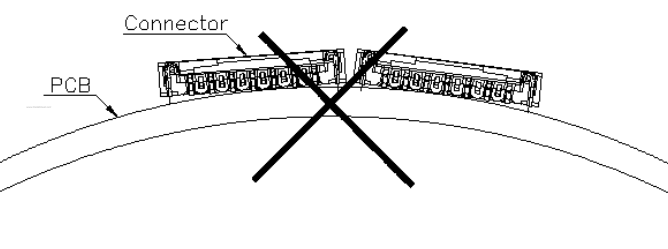
溫度條件 TEMPERATURE CONDITION GRAPH

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

9. 操作指示 Instruction upon usage

<p>步驟 1: Joining step 1 : 使用拇指或食指，將上蓋往上掀開。 Use the thumb or the forefinger, raise the top cover up.</p>	
<p>步驟 2: Joining step 2 : FPC 導電處朝下，平行的插入連接器中。 FPC gets along with conductivity down. The parallel one inserts it in the connector .</p>	
<p>步驟 3: Joining step 3 : 輕壓上蓋往下旋轉至定位，直到 FPC 完全插入且沒有移動。 Press the top cover lightly and rotate down to make a reservation , until FPC is totally inserted and not moved .</p>	
<p>步驟 4: Joining step 4 : FPC removal FPC 退出 小心掀起上蓋，將 FPC 退出。 Lift the top cover carefully, withdraw FPC from .</p>	
<p>警告 Warning!! 旋轉的角度不可大於 135 度。 The whirling angle can't be greater than 135 degrees.</p>	

<p>警告 Warning!! 當 FPC 插入的角度偏斜時，可能會引起導通不良。 When the angle that FPC inserts in is askew, may cause and lead openly and badly .</p>	
<p>警告 Warning!! 當 FPC 插入的角度偏斜時，可能會引起導通不良。 When the angle that FPC inserts in is askew, may cause and lead openly and badly .</p>	
<p>警告 Warning!! 向上拉扯的力量不要超過 0.05N/pin max. The strength of dragging upwards don't exceed 0.05N/pin max .</p>	
<p>警告 Warning!! 開啟連接器掀蓋時，不要使用過度的力量及避免接觸到端子。 While opening the connector and lifting and covering , don't use excessive strength and avoid touching the end son .</p>	
<p>警告 Warning!! 當在開啟 FPC 時，不要使用過度的力量及避免接觸到端子。 Don't use excessive strength and avoid touching the end son when open FPC.</p>	

<p>警告 Warning!! 施壓的力量，應該要平均。 The strength of exerting pressure should be average. 如圖所示，不要試著做移動或重新確實位置。 As illustrated, do not attempt removal or re-positioning of the actuator.</p>	
<p>警告 Warning!! 掀蓋的面積，應該要平均。 Lift the area overlaid, should be average. 如圖所示，不要試著做移動或重新確實位置。 As illustrated, do not attempt removal or re-positioning of the actuator.</p>	
<p>警告 Warning!! PCB 板平整度必須在 0.1mm max. The roughness of PCB board must be in 0.1mm max.</p>	

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

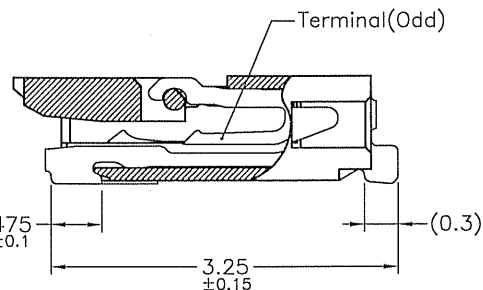
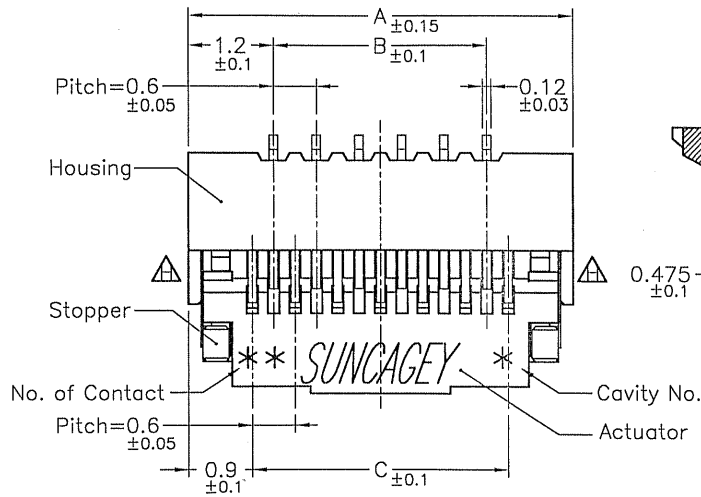
Specification

No. of Contacts	Width	?Pcs / Reel	?Reels / Carton	CUFT
09	16	5K / 1	9 / 1	1.5
11	16	5K / 1	9 / 1	1.5
13	16	5K / 1	9 / 1	1.5
15	16	5K / 1	9 / 1	1.5
17	16	5K / 1	9 / 1	1.5
19	16	5K / 1	9 / 1	1.5
21	16	5K / 1	9 / 1	1.5
23	16	5K / 1	9 / 1	1.5
25	16	5K / 1	9 / 1	1.5
27	24	5K / 1	7 / 1	1.5
29	24	5K / 1	7 / 1	1.5
31	24	5K / 1	7 / 1	1.5
33	24	5K / 1	7 / 1	1.5
35	24	5K / 1	7 / 1	1.5
37	24	5K / 1	7 / 1	1.5
39	24	5K / 1	7 / 1	1.5
41	24	5K / 1	7 / 1	1.5
43	24	5K / 1	7 / 1	1.5
45	24	5K / 1	7 / 1	1.5
49	24	5K / 1	7 / 1	1.5
51	24	5K / 1	7 / 1	1.5
57	32	5K / 1	6 / 1	1.5
61	32	5K / 1	6 / 1	1.5
67	32	5K / 1	5 / 1	1.5
71	44	5K / 1	5 / 1	1.5

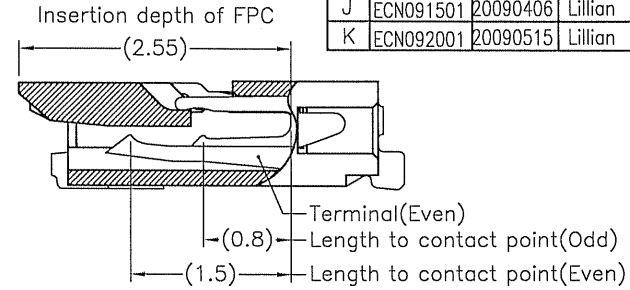
Export Carton Layer : 5

Carton Size : 35 × 35 × 34cm.

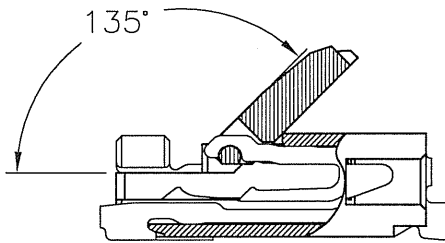
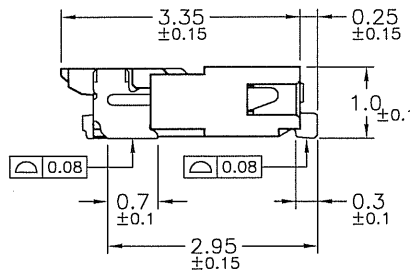
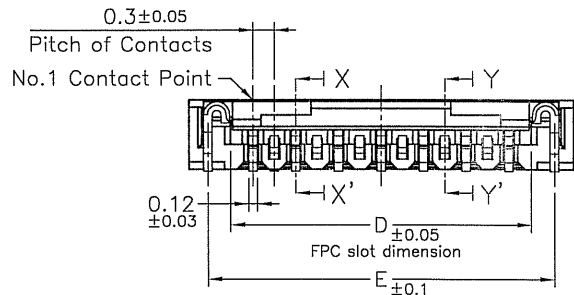
REV.	ECO NO.	DATE	SIGN	DESCRIPTION
I	ECN091301	20090324	Lillian	新增43PIN
J	ECN091501	20090406	Lillian	新增11PIN;新增電鍍方式:GF
K	ECN092001	20090515	Lillian	新增09PIN



SECT: X-X'
SCALE 15:1



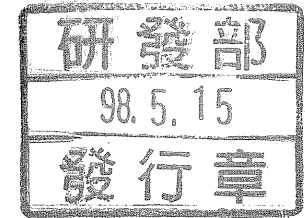
SECT: Y-Y'
SCALE 15:1



WHEN ACTUATOR IS OPENED
SCALE 15:1

NOTE:

- MATERIAL:
HOUSING:LCP(UL 94V-0)
ACTUATOR:LCP(UL 94V-0)
TERMINAL:PHOSPHOR BRONZE
STOPPER:PHOSPHOR BRONZE
- PLATING:
TERMINAL:SEE ORDERING INFORMATION
STOPPER:TIN OVER NICKEL(LEAD FREE)
- PART NO. :
BL125-xx RL - TA xx △
 - 3G-3U" GOLD OVER NICKEL
 - △ GF-1U"~3U" GOLD OVER NICKEL
 - PACKAGE
 - TA-EMBOSSED TAPE
 - RIGHT ANGLE(LOWER CONTACT TYPE)
 - NO. OF CONTACTS
- RATING:
OPERATING VOLTAGE:30V
CURRENT RATING:0.2A
OPERATING TEMPERATURE:-25°C ~ +85°C



No. of Contacts	Catalog No.	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E
09	BL125-09RL-TAxx	4.2	1.8	2.4	3.03	3.7
11	BL125-11RL-TAxx	4.8	2.4	3.0	3.63	4.3
13	BL125-13RL-TAxx	5.4	3.0	3.6	4.23	4.9
15	BL125-15RL-TAxx	6.0	3.6	4.2	4.83	5.5
17	BL125-17RL-TAxx	6.6	4.2	4.8	5.43	6.1
19	BL125-19RL-TAxx	7.2	4.8	5.4	6.03	6.7
21	BL125-21RL-TAxx	7.8	5.4	6.0	6.63	7.3
23	BL125-23RL-TAxx	8.4	6.0	6.6	7.23	7.9
25	BL125-25RL-TAxx	9.0	6.6	7.2	7.83	8.5
27	BL125-27RL-TAxx	9.6	7.2	7.8	8.43	9.1
29	BL125-29RL-TAxx	10.2	7.8	8.4	9.03	9.7
31	BL125-31RL-TAxx	10.8	8.4	9.0	9.63	10.3
33	BL125-33RL-TAxx	11.4	9.0	9.6	10.23	10.9
35	BL125-35RL-TAxx	12.0	9.6	10.2	10.83	11.5
37	BL125-37RL-TAxx	12.6	10.2	10.8	11.43	12.1
39	BL125-39RL-TAxx	13.2	10.8	11.4	12.03	12.7
41	BL125-41RL-TAxx	13.8	11.4	12.0	12.63	13.3
43	BL125-43RL-TAxx	14.4	12.0	12.6	13.23	13.9
45	BL125-45RL-TAxx	15.0	12.6	13.2	13.83	14.5
49	BL125-49RL-TAxx	16.2	13.8	14.4	15.03	15.7
51	BL125-51RL-TAxx	16.8	14.4	15.0	15.63	16.3
57	BL125-57RL-TAxx	18.6	16.2	16.8	17.43	18.1
61	BL125-61RL-TAxx	19.8	17.4	18.0	18.63	19.3
67	BL125-67RL-TAxx	21.6	19.2	19.8	20.43	21.1
71	BL125-71RL-TAxx	22.8	20.4	21.0	21.63	22.3

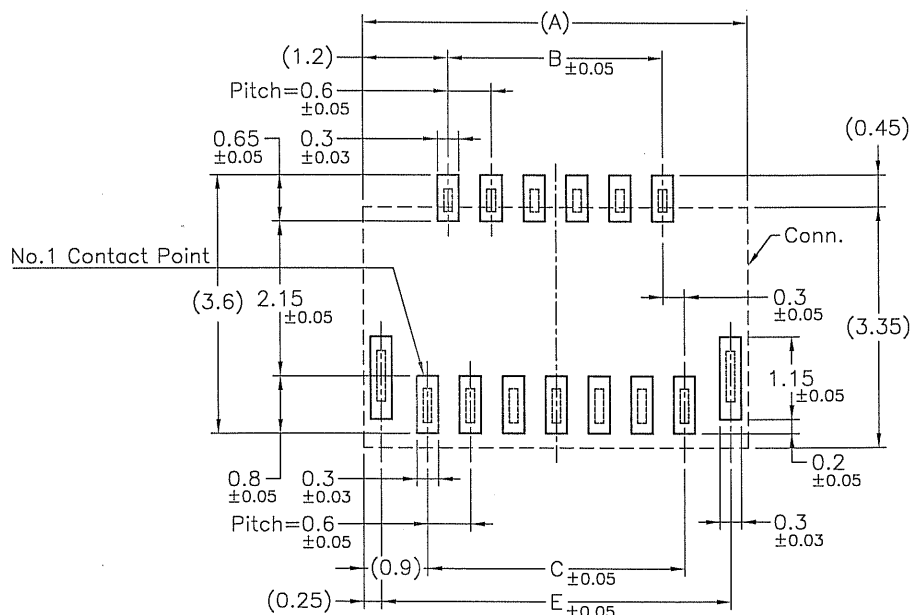
TOLERANCE UNLESS SPECIFIED		SHEET 1/4	DR. BY	MATERIAL See Note 1.
LINEAR	ANGLE	SCALE 10/1	CHK. BY	FINISH See Note 2.
XX XX	X XX	UNIT mm	APP. BY	PART NO. See Note 3.
XXXXX	.XX XX			

SUNCAGEY TAIWAN SUNCAGEY INDUSTRIAL CO., LTD.	
TITLE 0.3mm Pitch FPC Conn. E/O (H=1.0)	REV.
DWG NO. BL125-xxRL-TAxx	K

本部品不含有環境管理物質規定之有害物質

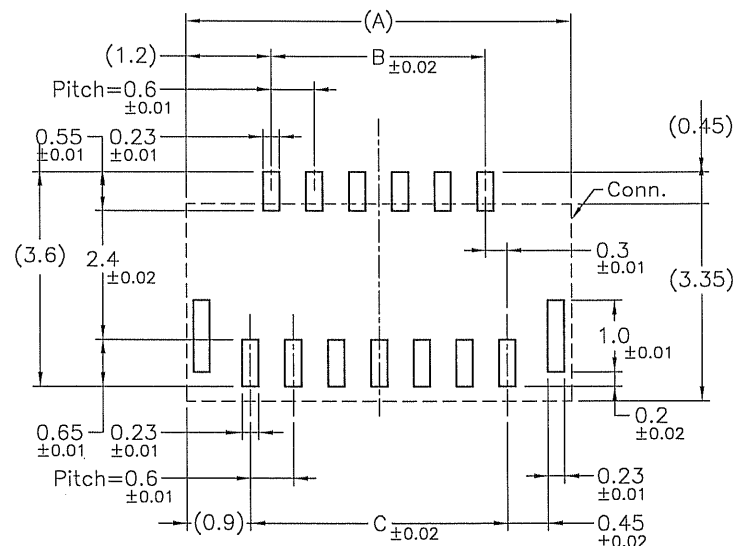
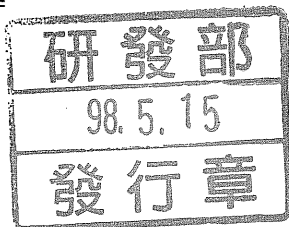
[MANAGEMENT REGULATIONS FOR THE RESTRICTIVELY-USED SUBSTANCES INCLUDED IN PARTS AND DEVICES]

極機密圖面 嚴禁拷貝



FPC/FFC INSERT DIRECTION

PCB Layout



Recommended metal mask pattern

No. of Contacts	Catalog No.	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E
09	BL125-09RL-TAxx	4.2	1.8	2.4	3.03	3.7
11	BL125-11RL-TAxx	4.8	2.4	3.0	3.63	4.3
13	BL125-13RL-TAxx	5.4	3.0	3.6	4.23	4.9
15	BL125-15RL-TAxx	6.0	3.6	4.2	4.83	5.5
17	BL125-17RL-TAxx	6.6	4.2	4.8	5.43	6.1
19	BL125-19RL-TAxx	7.2	4.8	5.4	6.03	6.7
21	BL125-21RL-TAxx	7.8	5.4	6.0	6.63	7.3
23	BL125-23RL-TAxx	8.4	6.0	6.6	7.23	7.9
25	BL125-25RL-TAxx	9.0	6.6	7.2	7.83	8.5
27	BL125-27RL-TAxx	9.6	7.2	7.8	8.43	9.1
29	BL125-29RL-TAxx	10.2	7.8	8.4	9.03	9.7
31	BL125-31RL-TAxx	10.8	8.4	9.0	9.63	10.3
33	BL125-33RL-TAxx	11.4	9.0	9.6	10.23	10.9
35	BL125-35RL-TAxx	12.0	9.6	10.2	10.83	11.5
37	BL125-37RL-TAxx	12.6	10.2	10.8	11.43	12.1
39	BL125-39RL-TAxx	13.2	10.8	11.4	12.03	12.7
41	BL125-41RL-TAxx	13.8	11.4	12.0	12.63	13.3
43	BL125-43RL-TAxx	14.4	12.0	12.6	13.23	13.9
45	BL125-45RL-TAxx	15.0	12.6	13.2	13.83	14.5
49	BL125-49RL-TAxx	16.2	13.8	14.4	15.03	15.7
51	BL125-51RL-TAxx	16.8	14.4	15.0	15.63	16.3
57	BL125-57RL-TAxx	18.6	16.2	16.8	17.43	18.1
61	BL125-61RL-TAxx	19.8	17.4	18.0	18.63	19.3
67	BL125-67RL-TAxx	21.6	19.2	19.8	20.43	21.1
71	BL125-71RL-TAxx	22.8	20.4	21.0	21.63	22.3

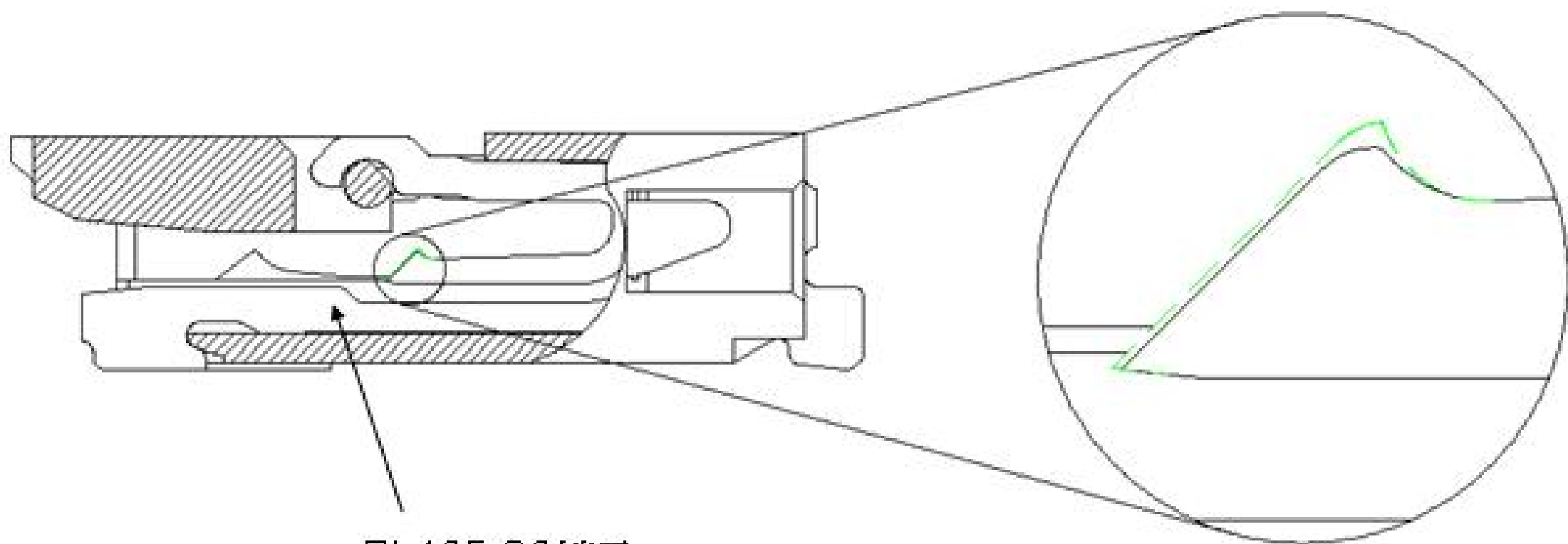
TOLERANCE UNLESS SPECIFIED	
LINEAR	ANGLE
X XX	X XX
XX XX	X XX
XXXXX	XX XX

SHEET 2/4
SCALE 10/1
UNIT mm

DR. BY
CHK. BY
APP. BY

MATERIAL
FINISH
PART NO.

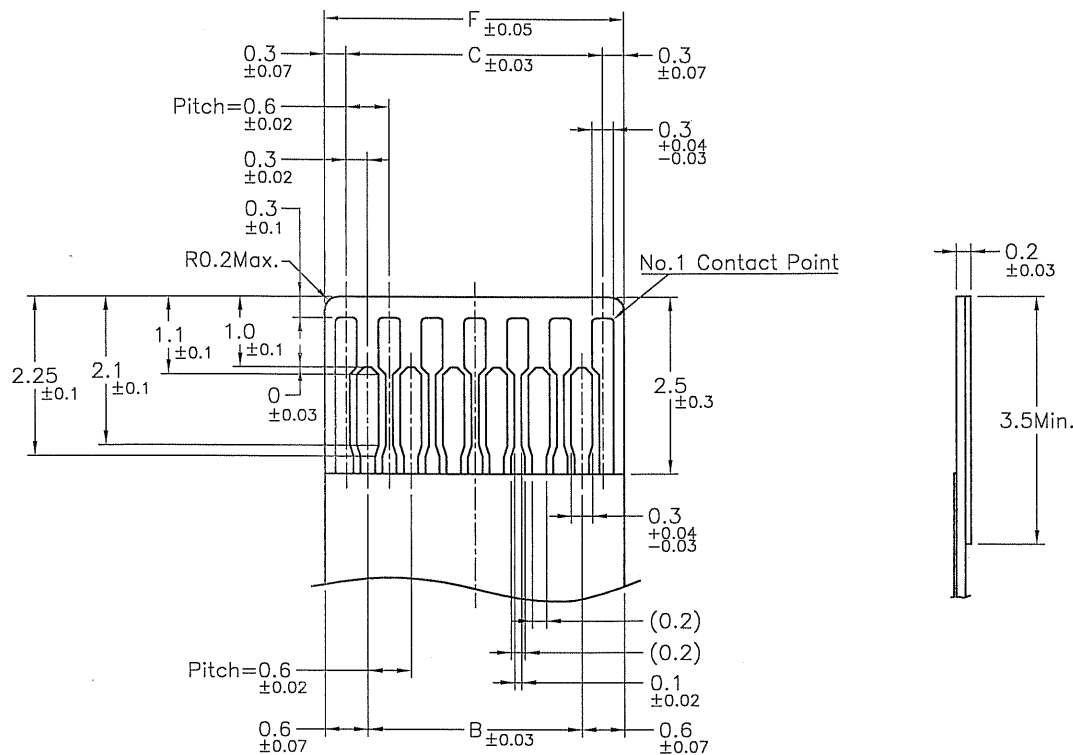
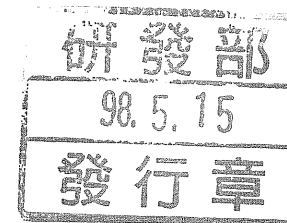
SUNCAGEY TAIWAN SUNCAGEY INDUSTRIAL CO., LTD.
TITLE 0.3mm Pitch FPC Conn. E/O (H=1.0)
DWG NO. BL125-xxRL-TAxx
REV. K



BL125-C2端子

設變示意

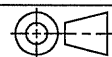
(綠色線表示設變後形狀)



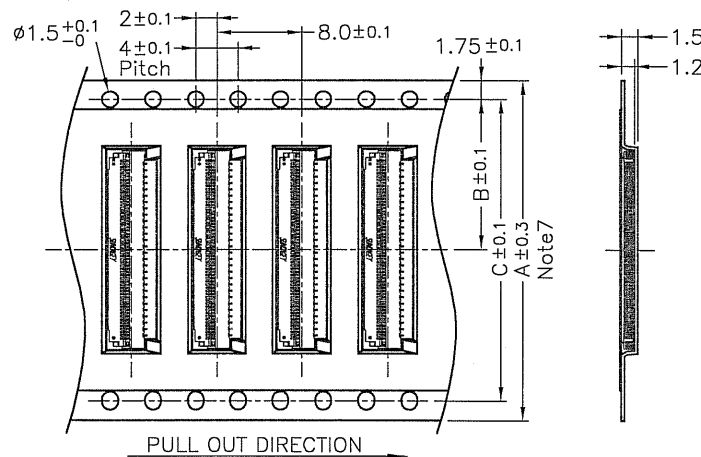
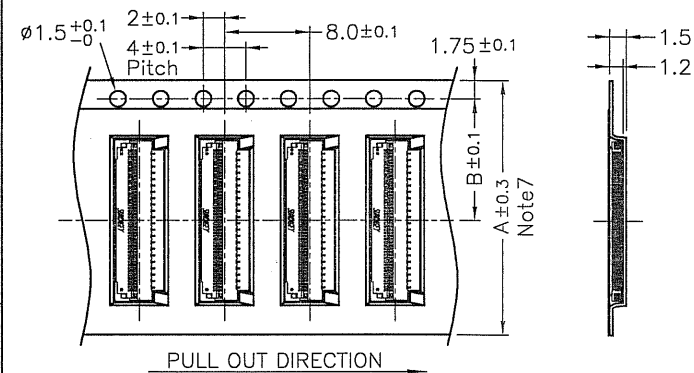
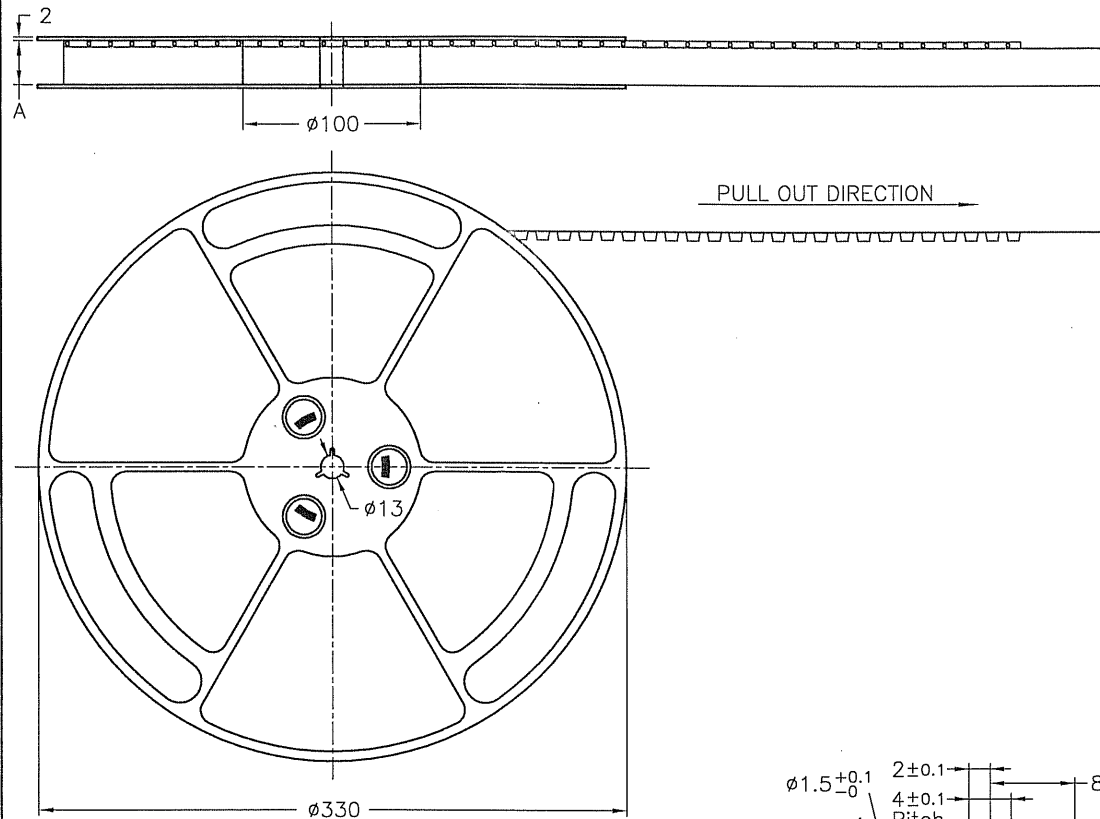
Applicable FPC

No. of Contacts	Catalog No.	DIM. B	DIM. C	DIM. F
09	BL125-09RL-TAxx	1.8	2.4	3.0
11	BL125-11RL-TAxx	2.4	3.0	3.6
13	BL125-13RL-TAxx	3.0	3.6	4.2
15	BL125-15RL-TAxx	3.6	4.2	4.8
17	BL125-17RL-TAxx	4.2	4.8	5.4
19	BL125-19RL-TAxx	4.8	5.4	6.0
21	BL125-21RL-TAxx	5.4	6.0	6.6
23	BL125-23RL-TAxx	6.0	6.6	7.2
25	BL125-25RL-TAxx	6.6	7.2	7.8
27	BL125-27RL-TAxx	7.2	7.8	8.4
29	BL125-29RL-TAxx	7.8	8.4	9.0
31	BL125-31RL-TAxx	8.4	9.0	9.6
33	BL125-33RL-TAxx	9.0	9.6	10.2
35	BL125-35RL-TAxx	9.6	10.2	10.8
37	BL125-37RL-TAxx	10.2	10.8	11.4
39	BL125-39RL-TAxx	10.8	11.4	12.0
41	BL125-41RL-TAxx	11.4	12.0	12.6
43	BL125-43RL-TAxx	12.0	12.6	13.2
45	BL125-45RL-TAxx	12.6	13.2	13.8
49	BL125-49RL-TAxx	13.8	14.4	15.0
51	BL125-51RL-TAxx	14.4	15.0	15.6
57	BL125-57RL-TAxx	16.2	16.8	17.4
61	BL125-61RL-TAxx	17.4	18.0	18.6
67	BL125-67RL-TAxx	19.2	19.8	20.4
71	BL125-71RL-TAxx	20.4	21.0	21.6

TOLERANCE UNLESS SPECIFIED		SHEET 3/4	DR. BY 謝清華	MATERIAL	SUNCAGEY TAIWAN SUNCAGEY INDUSTRIAL CO., LTD.
LINEAR	ANGLE				
X XX	X XX	SCALE 10/1	CHK. BY 謝清華	FINISH	TITLE 0.3mm Pitch FPC Conn. E/O (H=1.0) REV.
XX XX	X XX	UNIT mm	APP. BY 謝清華	PART NO.	
XXXXX	XX XX				

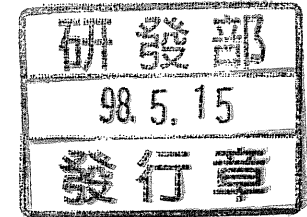


EMBOSSED TAPE PACKING BL125 SERIES RIGHT ANGLE TYPE



Note:

- 1.10 sprocket hole pitch cumulative tolerance ± 0.2 .
- 2.Carrier camber is within 1 mm in 250mm.
- 3.Material : Black Conductive Polystyrene Alloy.
- 4.All dimensions meet EIA-481-C requirements.
- 5.Thickness : 0.3 ± 0.05 mm.
- 6.Component load per 13" reel : 5000pcs.
- 7.For tape width (dimension A) 16 and 24mm a pilot hole is provided on one side.
For tape width (dimension A) 32mm pilot holes are provided on both sides.



Note7

No. of Contacts	Part Number	DIM. A	DIM. B	DIM. C
△09	BL125-09RL-TAxx	16	7.5	—
25	BL125-25RL-TAxx			
27	BL125-27RL-TAxx	24	11.5	—
51	BL125-51RL-TAxx			
57	BL125-57RL-TAxx	32	14.2	28.4
△69	BL125-69RL-TAxx			
71	BL125-71RL-TAxx	44	20.2	40.4

TOLERANCE UNLESS SPECIFIED		SHEET 4/4	DR. BY 謝相榮	MATERIAL See Note 3.	SUNCAGEY TAIWAN SUNCAGEY INDUSTRIAL CO., LTD.
LINEAR	ANGLE	SCALE	CHK. BY	FINISH	
X XX	X° XX	UNIT mm	APP. BY 謝相榮	PART NO.	
XXX XX	.XX° XX				
TITLE 0.3mm Pitch FPC Conn. E/O (H=1.0)					REV.
DWG NO. BL125-xxRL-TAxx					K

本部品不含有環境管理物質規定之有害物質

[MANAGEMENT REGULATIONS FOR THE RESTRICTIVELY-USED SUBSTANCES INCLUDED IN PARTS AND DEVICES]

極機密圖面 嚴禁拷貝

TICONA

VECTRA BUSINESS LINE 86 MORRIS AVE SUMMIT NJ 07901

Material Designation: **E473i**

Product Description: Liquid Crystal Polymer (LCP), thermotropic aromatic polyester, designated "Vectra" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
BK	0.75	V-0	-	-	130	130	130	-	-
NC	1.5	V-0	-	-	130	130	130	-	-

CTI: -**HVTR: -****D495: -****IEC BP: -**

NOTE Material designations may be suffixed by D-1, D-2 or D-3 indicating specific colors. These products are also produced and marketed by Ticona GmbH, Postfach 1561, 65444 Kelsterbach, Germany.

Report Date: 03/25/2003

Underwriters Laboratories Inc®

412775002

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

POLYPLASTICS CO LTD

VECTRA DIV, KASUMIGASEKI BLDG, 6TH FL 2-5 KASUMIGASEKI 3-CHOME CHIYODA-KU TOKYO 100-6006 JAPAN

Material Designation: **E471i(d)**

Product Description: Liquid Crystal Polymer (LCP), designated "VECTRA" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
NC, BK	0.8	V-0	-	-	130	130	130	-	-
ALL	1.5	V-0	-	-	130	130	130	-	-
	3.0	V-0	-	-	130	130	130	-	-

CTI: -**HVTR: -****D495: -****IEC BP: -**

(d) Virgin and regrind up to 50% by weight incl. have the same basic material characteristics for colors NC and BK.

Report Date: 01/31/2000

Underwriters Laboratories Inc®

593273003

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.



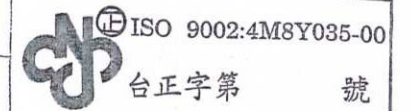
REPORT OF MATERIAL TEST

DATE: FEB. 29, 2008 (720862)

Customer: 伍慶精密工業股份有限公司

Commodity: C5210R PHOSPHOR BRONZE FOR SPRING (SH)

Applied Standard: CNS 9503 Phosphor Bronze Sheets, Plates and Strips



Chemical Analysis Test

Work No.	Size of Product			P(%)	Sn(%)	Cu+Sn+P(%)			
	Thickness (mm)	Width (mm)	Length (mm)						
	Standard								
				0.030 - 0.350	7.00 - 9.00	min. 99.70			
71M030B	0.120	17.000		0.150	7.472	99.975			
71M030A	0.120	17.000		0.150	7.472	99.975			
71M030B	0.120	17.500		0.150	7.472	99.975			
71M030A	0.120	17.500		0.150	7.472	99.975			



Mechanical & Physical Test

Work No.	Size of Product			Dimension Test		Tension Test		Hardness Test HV	Grain Size (mm)	Electric Conductivity (%)
	Thickness (mm)	Width (mm)	Length (mm)	Thickness (mm)	Width (mm)	Tensile Strength (kgf/mm ²)	Elongation (%)			
	Standard			-	(-) 0.10 - (+) 0.00	75 - 85	min. 9			
71M030B	0.120	17.000		GOOD.	GOOD.	76.39	14.22	240.0 - 242.0	0.005	12.0
71M030A	0.120	17.000		GOOD.	GOOD.	76.39	14.22	240.0 - 242.0	0.005	12.0
71M030B	0.120	17.500		GOOD.	GOOD.	76.39	14.22	240.0 - 242.0	0.005	12.0
71M030A	0.120	17.500		GOOD.	GOOD.	76.39	14.22	240.0 - 242.0	0.005	12.0

MINCHALI METAL INDUSTRY CO., LTD.

11, Pei Yuan Road, Chung Li City, Taiwan, R.O.C.

QC Supervisor



GUO CHING PRECISION CO., LTD

試驗成績表

REPORT OF MATERIAL TEST

客戶：伍慶精密工業股份有限公司
Customer 國慶精密股份有限公司
桃園縣龜山鄉大崗村大湖路2-17號
品名：C5191-II 尺寸：0.120x 17.3x C
Product Size TEL：03-2115391~8
料號：950630017 日期：96/08/03
Lot No Date FAX：03-2115399

化學成份

CHEMICAL COMPOSITION

元素 ELEMENT	Cu	P	Sn	
規範 MAX	-	0.350	7.000	
SPEC MIN	93.700	0.030	5.500	
分析值 ANALYSIS VALUE	93.861	0.152	5.967	

試驗

TEST RESULT

項目 ITEM	抗張 Tensile Strength kgf/mm2	伸長 Elongation %	硬度 Hardness Test o	結晶粒度 Grain Size µm	導電率 Electric Conductivity
規範 CONDITION	-	-	HV	-	-
SPEC MAX	70.000	-	200.000	-	-
SPEC MIN	58.000	-	190.000	-	-
測驗值 MEASURE-MENT VALUE	62.080	21.720	200.000	-	-



Approved by:

Checked by:



長協(岳昇)有限公司 (SUNTAIN CO., LTD)
 膜厚檢測合格報告(THICKNESS INSP. ACCEPT REPORT)

客 戶
 (CUSTOMER): 日慎

(P / N): BL125-RL-C1.GF

檢驗者(QC):Q9 2009/06/19

規 格 Au: 1.0 u"

(SPEC.): Ni: 60.0 ~ 90.0 u"

N= 1	Au=	1.27	u"	Ni=	78.3	u"
N= 2	Au=	1.33	u"	Ni=	70.1	u"
N= 3	Au=	1.25	u"	Ni=	72.3	u"
N= 4	Au=	1.26	u"	Ni=	71.4	u"
N= 5	Au=	1.20	u"	Ni=	72.5	u"
N= 6	Au=	1.27	u"	Ni=	71.0	u"
N= 7	Au=	1.34	u"	Ni=	72.1	u"
N= 8	Au=	1.30	u"	Ni=	74.3	u"
N= 9	Au=	1.26	u"	Ni=	72.4	u"
N= 10	Au=	1.37	u"	Ni=	76.2	u"
N= 11	Au=	1.17	u"	Ni=	74.2	u"
N= 12	Au=	1.15	u"	Ni=	80.1	u"
N= 13	Au=	1.20	u"	Ni=	73.6	u"
N= 14	Au=	1.19	u"	Ni=	74.2	u"
N= 15	Au=	1.20	u"	Ni=	78.2	u"
N= 16	Au=	1.17	u"	Ni=	72.4	u"
N= 17	Au=	1.26	u"	Ni=	75.4	u"
N= 18	Au=	1.30	u"	Ni=	76.2	u"
N= 19	Au=	1.25	u"	Ni=	79.3	u"
N= 20	Au=	1.27	u"	Ni=	77.7	u"

長協(岳昇)有限公司 (SUNTAIN CO., LTD)
 膜厚檢測合格報告(THICKNESS INSP. ACCEPT REPORT)

客 戶
 (CUSTOMER):

日慎

(P / N): BL125-RL-C2.GF

檢驗者(QC):Q9 2009/06/19

規 格 Au: 1.0 u"

(SPEC.): Ni: 60.0 ~ 90.0 u"

N= 1	Au=	1.34	u"	Ni=	89.2	u"
N= 2	Au=	1.35	u"	Ni=	87.4	u"
N= 3	Au=	1.30	u"	Ni=	85.3	u"
N= 4	Au=	1.25	u"	Ni=	86.2	u"
N= 5	Au=	1.24	u"	Ni=	87.4	u"
N= 6	Au=	1.37	u"	Ni=	79.4	u"
N= 7	Au=	1.47	u"	Ni=	78.4	u"
N= 8	Au=	1.52	u"	Ni=	75.3	u"
N= 9	Au=	1.96	u"	Ni=	75.2	u"
N= 10	Au=	1.54	u"	Ni=	79.3	u"
N= 11	Au=	2.05	u"	Ni=	82.1	u"
N= 12	Au=	1.67	u"	Ni=	85.4	u"
N= 13	Au=	2.34	u"	Ni=	84.2	u"
N= 14	Au=	2.05	u"	Ni=	85.4	u"
N= 15	Au=	2.17	u"	Ni=	87.5	u"
N= 16	Au=	2.15	u"	Ni=	80.2	u"
N= 17	Au=	1.97	u"	Ni=	79.3	u"
N= 18	Au=	1.75	u"	Ni=	84.1	u"
N= 19	Au=	1.99	u"	Ni=	86.3	u"
N= 20	Au=	1.54	u"	Ni=	79.3	u"