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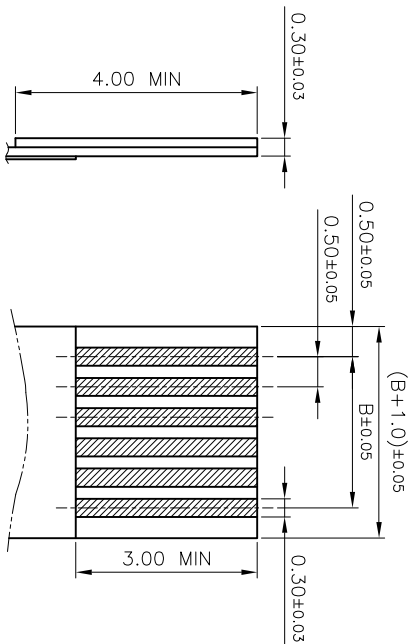
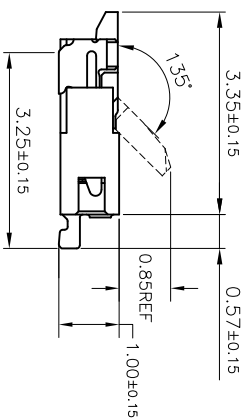
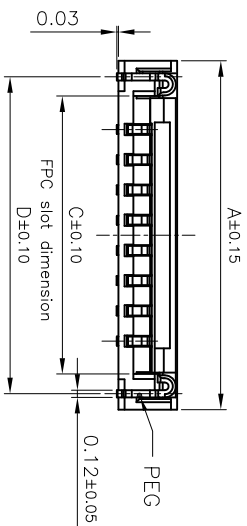
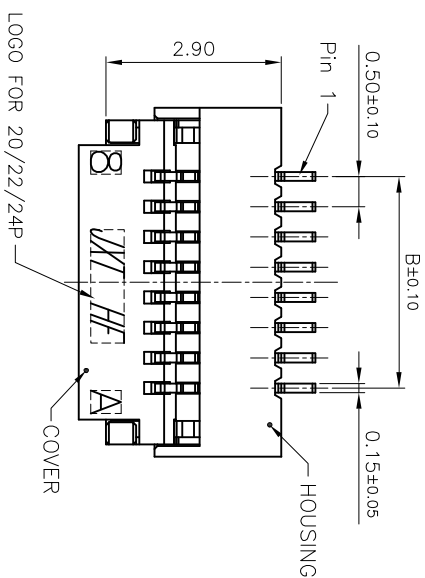
SPECIFICATION
FOR
0.5 Pitch 1.0Pitch 1.0H FPC/FFC
Conn.Easy-On Type.

MODULE NO.: FPC241H-040G10M
DOC.REVISION: 2

AVD	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	AP	JZ	张光明
DATE			

CUSTOMER APPROVAL	SIGNATURE	DATE

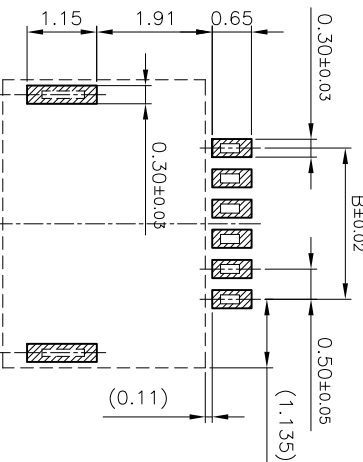
HSF COMPLIANT



- NOTES:
1. MATERIAL:
HOUSING: HIGHT-TEMP PLASTIC,
UL 94V-0, COLOR: WHITE;
COVER: HIGHT-TEMP PLASTIC,
UL 94V-0, COLOR: BLACK;
CONTACT: COPPER ALLOY;
PEG: COPPER ALLOY;
 2. PLATING:
CONTACT: GOLD OR TIN PLATED
ON NICKEL OVERALL.
PEG: TIN PLATED ON NICKEL OVERALL.
 3. RATING:
CURRENT RATING: 0.4A AC/DC
VOLTAGE RATING: 50V AC/DC
TEMPERATURE RANGE: -55°C~+85°C;
 4. PART NO.(P/N.):
FP241H - 0xx X 1 X M

"0" WITH LOGO
"A" WITHOUT LOGO
PLATING: S: MATT Sn
G: G.F.
T: Au 3u"

RECOMMEND PCB LAYOUT
TOLERANCE: ±0.05



PIN NO.	DIM. A	DIM. B	DIM. C	DIM. D	PIN NO.	DIM. A	DIM. B	DIM. C	DIM. D
04	3.77	1.50	2.60	3.27	23	13.27	11.50	12.10	12.77
05	4.27	2.00	3.10	3.77	24	13.77	11.50	12.60	13.27
06	4.77	2.50	3.60	4.27	25	14.27	12.00	13.10	13.77
07	5.27	3.00	4.10	4.77	26	14.77	12.50	13.60	14.27
08	5.77	3.50	4.60	5.27	27	15.27	13.00	14.10	14.77
09	6.27	4.00	5.10	5.77	28	15.77	13.50	14.60	15.27
10	6.77	4.50	5.60	6.27	29	16.27	14.00	15.10	15.77
11	7.27	5.00	6.10	6.77	30	16.77	14.50	15.60	16.27
12	7.77	5.50	6.60	7.27	31	17.27	15.00	16.10	16.77
13	8.27	6.00	7.10	7.77	32	17.77	15.50	16.60	17.27
14	8.77	6.50	7.60	8.27	33	18.27	16.00	17.10	17.77
15	9.27	7.00	8.10	8.77	34	18.77	16.50	17.60	18.27
16	9.77	7.50	8.60	9.27	35	19.27	17.00	18.10	18.77
17	10.27	8.00	9.10	9.77	36	19.77	17.50	18.60	19.27
18	10.77	8.50	9.60	10.27	37	20.27	18.00	19.10	19.77
19	11.27	9.00	10.10	10.77	38	20.77	18.50	19.60	20.27
20	11.77	9.50	10.60	11.27	39	21.27	19.00	20.10	20.77
21	12.27	10.00	11.10	11.77	40	21.77	19.50	20.60	21.27
22	12.77	10.50	11.60	12.27	n	n*0.5+1.77	(n-1)*0.5	n*0.5+0.6	n*0.5+1.27



DRWN:

PART NO.:
FPC241H-040G10M

CHKD:

TITLE:
0.5P 1.0H FPC CONN.-CUST. DWG

APPD:

DRAWING NO.:

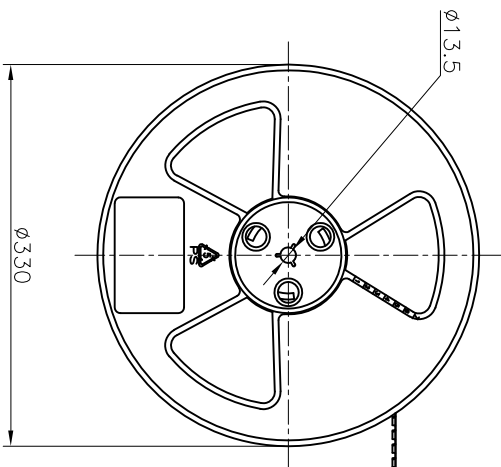
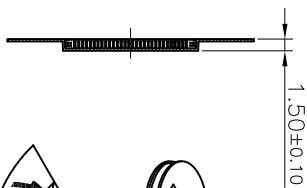
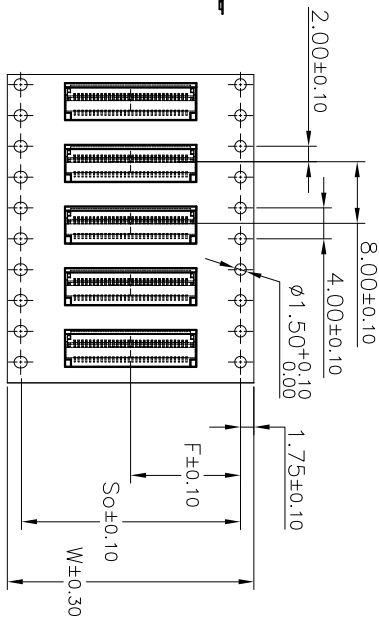
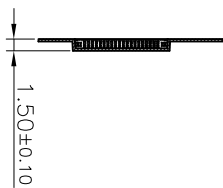
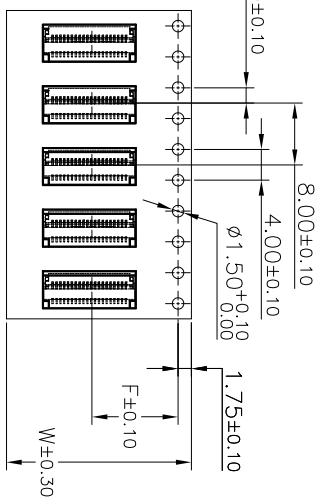
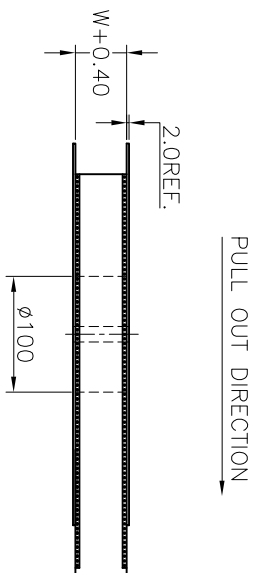
SHEET:
1/1



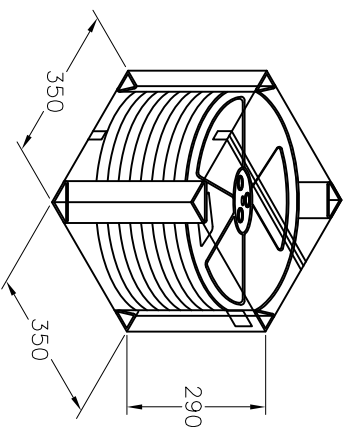
UNIT: mm SCALE: N/A SIZE: A4 REV: A1

DIM	TOL	DEC	TOL
X.	±--	X.	±2'
X.X	±0.25	X.X'	±2'
X.XX	±0.15	X.XX'	±--
X.XXX	±0.10	X.XXX'	±--

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SCALE 3:20



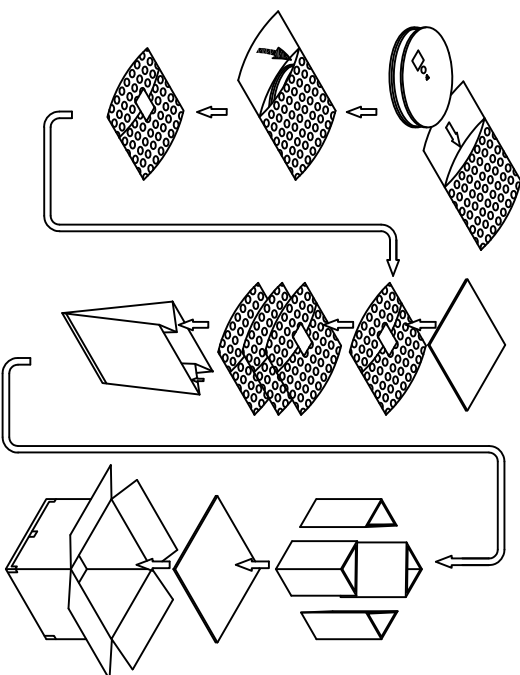
PACKING DISCRPTION:

PIN No.	04~07	08~13	14~30	31~40	41~50
REEL WIDTH	12.4	16.4	24.4	32.4	44.4
PCS/REEL	5000	5000	5000	5000	5000
REEL/BOX	11	9	7	6	5
BOX/PCS	55K	45K	35K	30K	25K
CTN. SIZE	350*350*290				

PIN NO.	DIM W	DIM F	DIM So
04~07	12.0	5.50±0.05	--
08~13	16.0	7.50±0.10	--
14~30	24.0	11.50±0.10	--
31~40	32.0	14.20±0.10	28.4
41~50	44.0	20.20±0.15	40.4

DIM	TOL	DEC	TOL
X.	±--	X.	±--
X.X	±--	X.X'	±--
X.XX	±--	X.XX'	±--
X.XXX	±--	X.XXX'	±--

- NOTES:
1. ALL DIMENSION MEET EIA-481-3 REQUIREMENTS;
 2. CARRIER MATERIAL: PS, BLACK;
 3. PACKING QULTY: 5000PCS/REEL;



ORIENT DISPLAY

DRWN: PART NO.:

CHKD: TITLE: 0.5P 1.0H FPC

CONN.-PACKING DWG

APPD: DRAWING NO.:

SHEET: 1/1

UNIT mm SCALE N/A SIZE A4 REV A0

1. SCOPE

This specification covers the performance, tests and quality requirements for the *0.50Pitch 1.0Pitch 1.0H FPC/FFC Connector, Easy-On Type*.

When tests are performed on the subject product line, the procedures specified specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. REQUIREMENTS

2.1 PRODUCT DIMMENTIONS and APPLICABLE FFC/FPC&PCBLAYOUT

Product shall be of the design, construction and physical dimensions specified on the applicable Product Drawing.

See attached Product Drawing.

2.2 MATERIALS

See attached Product Drawing.

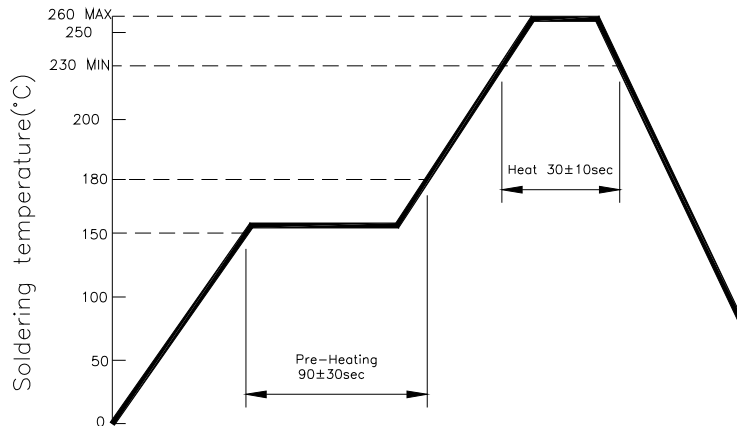
2.3 RATINGS

ITEM	STANDARD
Operating Voltage (Max.)	See attached Product Drawing.
Current Rating (Max.)	See attached Product Drawing.
Operating Temperature	-55°C~+85° (Including terminal temperature rise)
Operating Humidity range	Relative humidity 90%Max.
Storage temperature range	-10°C ~ +50°C
Storage Humidity range	Relative humidity 90%Max.

3. Test Requirements and Procedures Summary

测试项目(Test Item)		规格(Requirement)		测试方式/条件(Test Condition)
1	外观检查 Examination of Product	符合图面外观，无任何损坏异状 No physical damage.		目视 Visual inspection.
电气特性(Electrical Requirement)				
2	接触阻抗 Contact Resistance	[40] mΩ 以下. [40] mΩ Max.		将样品与适合之 FFC/FPC 连接，测试电压 20mV，限电流 10mA 下进行阻抗测试。 Mate applicable FPC and measure by dry circuit, 20mV Max,10mA.(EIA-364-6B)
3	绝缘阻抗 Insulation Resistance	[50] MΩ 以上. [50] MΩ Min.		将样品与适合之 FFC/FPC 连接，提供相邻端子间测试电压 500V DC 进行绝缘阻抗测试。 Mate applicable FPC and apply 500V DC between adjacent terminal and ground. (EIA-364-20B /MIL-STD-202 Method 302)
4	耐电压 Dielectric withstanding Voltage	目视外观无任何损坏异状 No Breakdown		将样品与适合之 FFC/FPC 连接，提供相邻端子间测试电压 500V DC 进行绝缘阻抗测试。 Mate applicable FPC and apply 500V DC between adjacent terminal and ground. (EIA-364-21C /MIL-STD-202 Method 302)
机械特性(Mechanical Requirement)				
5	FFC/FPC 保持力 FFC/FPC Retention Force	04~20pin: Pos. x 0.050Kgf {0.50N} 以上 21~60pin: Pos. x 0.030Kgf {0.30N} 以上		将盖子盖上与 FFC/FPC 连接，以操作速度每分钟位移 25±3mm 进行 FFC/FPC 保持力测试。 Insert the Cover; pull the FFC/FPC at a rate of 25±3mm per minute(EIA-364-13B).
6	Contact / Peg 保持力 Contact / Peg Retention Force	Pos. x 0.08Kgf {0.8N} 以上 Pos. x 0.08Kgf {0.8N} Min.		以操作速度每分钟位移 25±3mm 进行 FFC/FPC 保持力测试。 Pull the FFC/FPC at a rate of 25±3mm per minute (EIA-364-13B).
7	耐久性 Durability	接触阻抗 Contact Resistance	[60] mΩ 以下 [60] mΩ Max.	运行速度 最大 10 次/min, 耐久周期 50 次 Operation Speed [10] cycle-max./min Durability Cycles : 50 Cycles
8	耐振性 Vibration	外观 Appearance	目视外观无任何损坏异状 No Damage	通过 DC 电流 1mA，位移相对距离 1.5mm，振动周期 10~ 55~ 10 Hz 在 1 分钟内,持续 2 小时,方向在 X,Y,Z 轴做测试。 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. (EIA-364-28D, Condition I /MIL-STD-202 Method 201)
		瞬间断电 Discontinuity	1 μ sec 以下. 1 μ sec Max.	

测试项目(Test Item)		规格(Requirement)		测试方式/条件(Test Condition)
环境特性及其他性能(Environment Performance and Others)				
9	耐冲击性 Mechanical Shock 负载额定电流下, 温度 30°C Max 30°C Max. Under loaded rating current	外观 Appearance	目视外观无任何损坏异状 No Damage	Duration: 2 hours in each of X, Y, Z axes. 将样品与适合之 FFC/FPC 连接, 通过 DC 1mA 测试条件, 连续测试 3 次。在 X、Y、Z 3 轴 6 个垂直方向施予重力加速度.490m/s2 {50G} 冲击。 Mate applicable FFC/FPC and subject to the following shock conditions. 3 times of shocks shall be applied for ach 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (EIA-364-27B, Method A /MIL-STD-202 Method 108)
		接触阻抗 Contact Resistance	[60] mΩ 以下. [60] mΩ Max.	
		瞬间断电 Discontinuity	1 μ sec 以下. 1 μ sec Max..	
10	温升 Temperature Rising	负载额定电流下, 温度 30°C Max 30°C Max. Under loaded rating current		Contact series-wired, apply test current of loaded rating current to the circuit, and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured value.
11	温度寿命 (热老化) Temperature Life(Heat Aging)	接触阻抗 Contact Resistance	[60] mΩ 以下 [60] mΩ Max.	在 85°C下, 配对连接 250 小时 Mated Connector 85°C, 250 hours,
12	热冲击 Thermal Shock	接触阻抗 Contact Resistance	[60] mΩ 以下 [60] mΩ Max.	在-55+/-3°C下 配对连接 30 分钟 在+85+/-2°C下 配对连接 30 分钟 依据以上, 循环 5 次 Mated Connector -55+/-3°C(30 min.), +85+/-2°C(30 min) Perform this a cycle, repeat 5 cycles
13	温度循环 Humidity-Temperature Cycle	接触阻抗 Contact Resistance	[60] mΩ 以下 [60] mΩ Max.	在温度 25~65°C, 相对湿度 90~95%下, 配对连接, 循环 10 次 Mated Connector 25~65°C, 90~95% RH, 10 Cycles
14	盐水喷雾 Salt Spray	外观 Appearance	目视外观无任何损坏异状 No Damage	将样品与适合之 FFC/FPC 连接, 使用 5±1%浓度盐水, 测试温度 35±2°C, 测试时间 48±4 小时, 后于室温下使用清水 冲洗后再干燥。(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 NaCl solution Concentration: 5 ± 1% Spray time:48 ± 4 hours Ambient temperature: 35 ± 2°C (EIA-364-26B, Condition B /MIL-STD-202 Method 101)
15	可焊性 Solder ability	试验区焊锡面积应超过 95% The test area shall be covered more than 95% of immersed area with fresh solder		温度: 245±5°C, 3±0.5sec Temperature: 245±5°C, 3±0.5sec. MIL-STD-202F, Method 208
16	焊锡耐热性 Resistance to Soldering Heat	外观 Appearance	目视外观无任何损坏异状 No Damage	使用红外线回焊时请参考第 4 点 When reflowing...Refer to paragraph 4.
				使用烙铁手焊时须可符合下述焊锡条件 Soldering iron method 0.2mm from terminal tip and fitting nail tip. Soldering time: 5 seconds Max. Solder temperature : 370~400°C

4. Resistance to flow solder heat


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.

5. Qualification and Requalification Test

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1,7	1,9	1,6	1,5	1,5	1,5	1,5	1,3	1,3	1,3
Contact Resistance		2,8	2,5	2,4	2,4	2,4	2,4			
Dielectric withstanding Voltage	3,6									
Insulation Resistance	2,5									
Contact/ Peg Retention Force		3,7								
FPC/FFC Retention Force		4,6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Temperature Rising								2		
Solder ability										2
Resistance to Soldering Heat									2	
Thermal Shock				3						
Humidity Temperature Cycling	4				3					
Temperature Life						3				
Salt Spray							3			

6. Packing Specification
6.1 Tape and Reel Dimensions :

See attached Packing drawings.

6.2 Packing Specification

See attached Packing drawings.

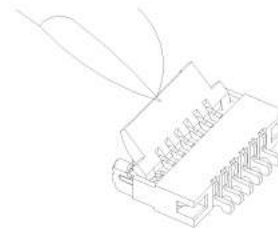
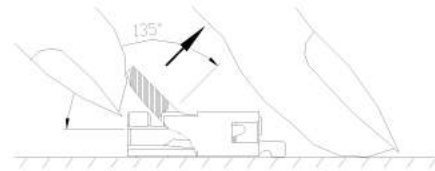
7. Instruction Upon Usage(操作说明)
步驟 1:
Joining step 1 :

使用拇指或食指，將上蓋往上掀開。

掀蓋的面积，应该要平均且要掀蓋的中心部位。

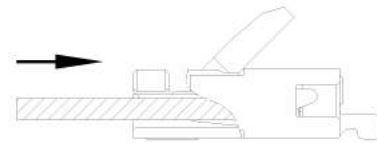
Use the thumb or the forefinger, raise the top cover up.

Lift the area overlayed, should be average and lifting actuator at the center..


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 .

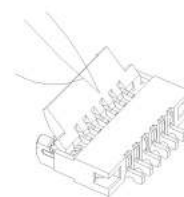
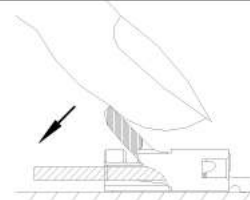

步驟 3:
Joining step 3:

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 .

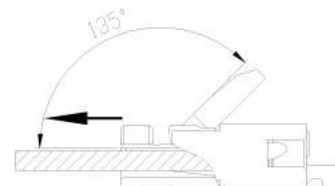
施压的力量，应该要平均且要压蓋的中心部位,。

The strength of exerting pressure should be average and pushing actuator at the center.


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 .

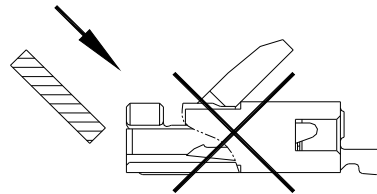


警告

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 .

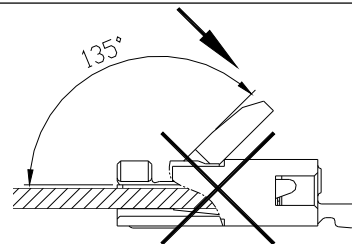


警告

Warning!!

旋轉的角度不可大於 135 度，否則有可能發生掉蓋、變形等不良。

The whirling angle can't be greater than 135 degrees. Or they may occur out of cover, deformation bad.

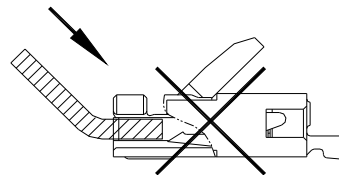


警告

Warning!!

當 FFC 插入的角度偏斜時，可能會引起導通不良。

When the angle that FFC inserts in is askew, may cause and lead openly and badly.

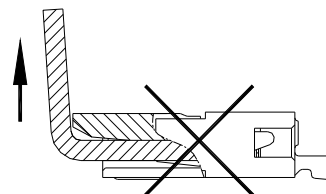


警告

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 .

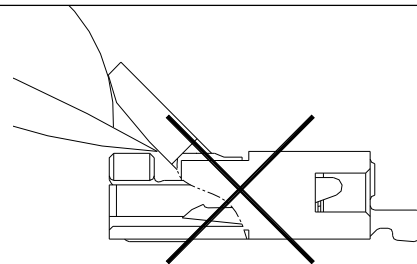


警告

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。

Covering, don't use excessive strength and avoid touching the end son.

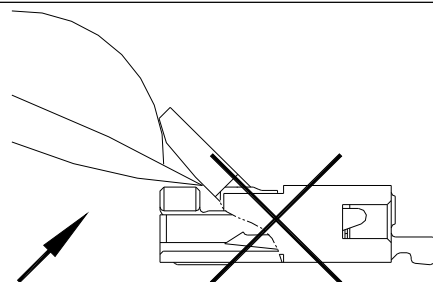


警告

Warning!!

當在開啟 FFC 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 FFC/FPC



警告

Warning!!

合盖时，力量不宜过大、施力不均、且单边受力。

Lid, the force should not be too large, uneven force and unilateral force.

图 1

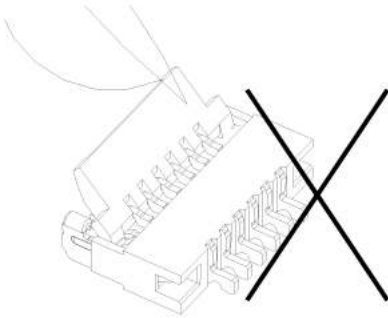
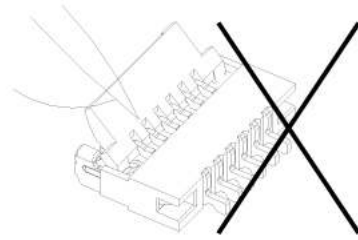


图 2



警告

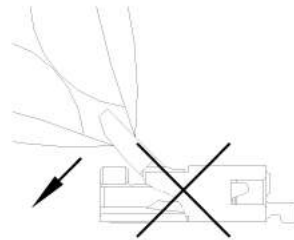
Warning!!

合盖时，施压的力量，应该要平均。

The strength of exerting pressure should be average.

如图所示，不要试着做移动或重新确实位置。

As illustrated, do not attempt removal or re-positioning of the actuator.



警告

Warning!!

掀盖时，力量不宜过大、施力不均、且单边受力。

Flip cover, force should not be too large, uneven force and unilateral force.

图 1

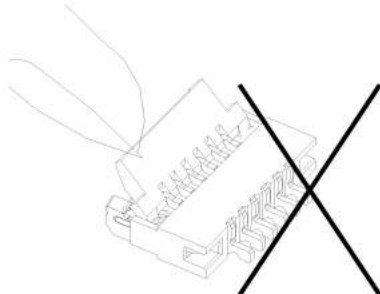
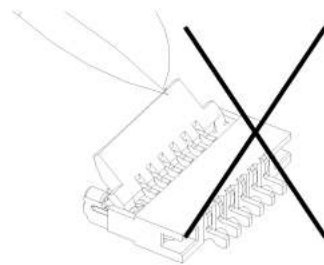


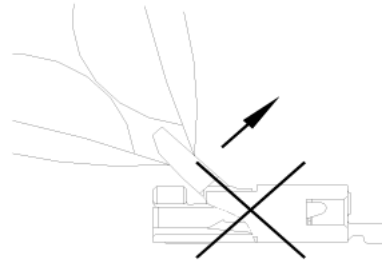
图 2



警告**Warning!!**

掀盖的面积, 应该要平均. 不要试着做移动或重新确定盖子的位置。

Lift the area overlapped should be average. Do not attempt removal or re-positioning of the cover.

**警告****Warning!!**

PCB 板平整度必须在 0.1mm max.

The roughness of PCB board must be in 0.1mm max.

