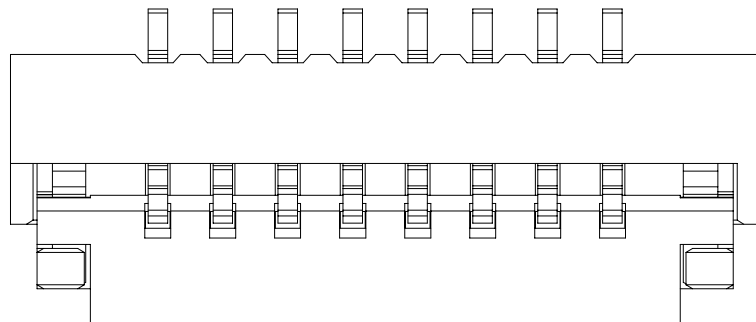


FPC Connector  
0.5mm Pitch 1.0High

## Product Specification

Issued Date  
99.04.16



FPC Connector 0.5 Pitch R/A ZIF SMT TYPE

### Update List:

Item	Update Description	Rev.	Issued Date	Revisor
1	New Edit	A	99.04.16	SC.Zhang

Prepared By: SC.Zhang

Rechecked By: SC.Zhang

Approved By: Nick

FPC Connector 0.5mm Pitch 1.0High	<h1>Product Specification</h1>	Issued Date 99.04.16

## 1. SCOPE

### 1.1 Contents

This specification covers the performance, tests and quality requirements for the FFC/FPC Connector.

### 1.2 Qualification

When tests are performed on the subject product line, the procedures specified in LZR inspection plan and product drawings.

## 2. ORDERING INFORMATION

PART NO.: FPC 05 10 01 XX L G  
1 2 3 4 5 6 7

<span style="background-color: black; color: white; padding: 2px 5px;">1</span>	Series name	FPC Connector
<span style="background-color: black; color: white; padding: 2px 5px;">2</span>	Pitch	0.5 mm
<span style="background-color: black; color: white; padding: 2px 5px;">3</span>	High	1.0mm
<span style="background-color: black; color: white; padding: 2px 5px;">4</span>	Mode	01:Clamshell FFC T=0.3mm / 02:Drawer FFC T=0.3mm 03:Clamshell FFC T=0.2mm / 04:Drawer FFC T=0.2mm
<span style="background-color: black; color: white; padding: 2px 5px;">5</span>	Number of terminals	04-50PIN
<span style="background-color: black; color: white; padding: 2px 5px;">6</span>	Assembly style	L:Low Contact SMT Type / U:Upper Contact SMT Type D:Double-Face Contact SMT Type
<span style="background-color: black; color: white; padding: 2px 5px;">7</span>	Plating	G:Gold flash over Nickel / T:Tin OVER Nickel

## 3. CONNECTOR DIMENSIONS

See attached drawings.

## 4. MATERIAL

Housing :	Hight -Temp plastic Color : .White
	Flammability Rating (UL94V-0)
Actuator	Hight -Temp plastic Color : Brown.
	Flammability Rating (UL94V-0)
Contact :	Copper alloy
Leg :	Copper alloy
Contact Plating	See Ordering Information
Leg Plating:	Tin over Nickel

## 5. ACCOMMODATED P.C.B. LAYOUT

See attached drawings.

FPC Connector 0.5mm Pitch 1.0High	<h1>Product Specification</h1>	Issued Date 99.04.16

## 6. RATING.

ITEM	STANDARD
Operating Voltage (Max.)	50V AC/DC
Current Rating (Max.)	0.4A DC
Operating Temperature	-55°C ~ +85°C (Including terminal temperature rise)

## 7. PERFORMANCE

Test Item		Requirement	Procedure
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
<b>Electrical Requirement</b>			
2	Contact Resistance	[ 40 ] m Ohm Max(Initial)	Subject mated contacts assembled in housing to 20mV Max open circuit at 10mA Max. Refer to Fig.3
3	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage: 0.5 mA MAX	[ 500 ]VAC for 1minute Test between adjacent circuits of unmated connector.
4	Insulation Resistance	[ 50 ] M Ohm Min.(Initial)	Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector.
<b>Mechanical Requirement</b>			
5	Contact / Peg Retention Force	0.080 kgf Min.	Apply axial pull out force at the rate of [ 25.4±3 ] mm/min on the terminal assembled in the housing.
6	FPC/FFC Retention Force	0.0150 kgf/Pin Min.	Operation Speed: [ 25.4±3 ] mm/min Measure the force required to unmate connector.
7	Durability	Contact Resistance: [ 60 ] m Ohm Max(Final)	Operation Speed: [ 10 ] cycle-max./min Durability Cycles: 50 Cycles
8	Vibration	No electrical discontinuity greater than 0.1 or 1 μ sec shall occur. See Note.	Subject mated connectors to 10-55-10 Hz traversed in 1minutes at 1.52mm amplitude 2 Hours each of 3 mutually perpendicular planes. 100mA Max. Applied.
9	Mechanical Shock	No electrical discontinuity greater than 0.1 or 1 μ sec shall occur. See Note.	Accelerate Velocity : 490m/s <sup>2</sup> ( 50G ) Waveform : Half-sine shock plus Duration: 11msec No. of Drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops, passing DC 100mA max. Current during the test.

FPC Connector 0.5mm Pitch 1.0High	<b>Product Specification</b>	Issued Date
		99.04.16

Test Item	Requirement	Procedure
<b>Environmental Requirements</b>		
10	Temperature Rising	30℃ 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	Solder ability	The inspected area of each lead must have 95% solder coverage minimum. Steam Aging Preconditioning: Intended for no-tin lead and no-tin lead - alloy finished for 93+3/-5℃、8hrs. Solder pot temperature: 245±5℃, 3~5sec
12	Resistance to Reflow Soldering Heat	No physical damage shall occur. (Lead-Free) Pre Heat: 150~180℃, 90±30sec. Heat: 230℃ Min., 30±10sec. Peak Temp.: 260+0/-5℃, 10sec. or less Duration: 3 cycles Refer to Fig.4
13	Thermal Shock	Contact Resistance: [ 60 ] m Ohm Max(Final) Mated Connector -55+/-3℃(30 min.), +85+/-2℃(30 min) Perform this a cycle, repeat 5 cycles
14	Humidity-Temperature Cycle	Contact Resistance: [ 60 ] m Ohm Max(Final) Mated Connector 25~65℃, 90~95% RH, 10 Cycles
15	Temperature Life (Heat Aging)	Contact Resistance: [ 60 ] m Ohm Max(Final) Mated Connector 85℃, 250 hours,
16	Salt Spray	No detrimental corrosion allowed in contact area and base metal exposed. Contact Resistance: [ 60 ] m Ohm Max(Final) Subject mated connectors to 35+/-2℃ and 5+/-1% salt condition for 48hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. EIA-364-26B, Condition B

Figure 1 (End)

NOTE: Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

## 7.1. Product Qualification and Requalification test.

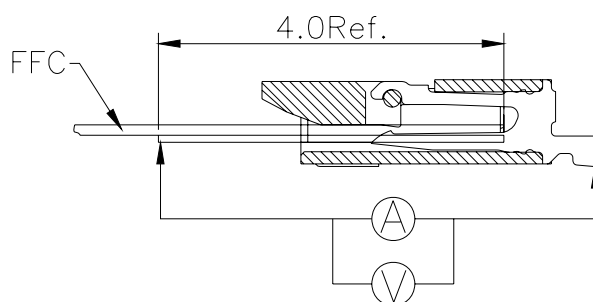
Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1, 7	1, 9	1, 6	1, 5	1, 5	1, 5	1, 5	1, 3	1, 3	1, 3
Contact Resistance		2, 8	2, 5	2, 4	2, 4	2, 4	2, 4			
Dielectric withstanding Voltage	3, 6									
Insulation Resistance	2, 5									
Contact/ 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			

**Figure 2**

**NOTE:** (a) Numbers indicate sequence in which tests are performed.

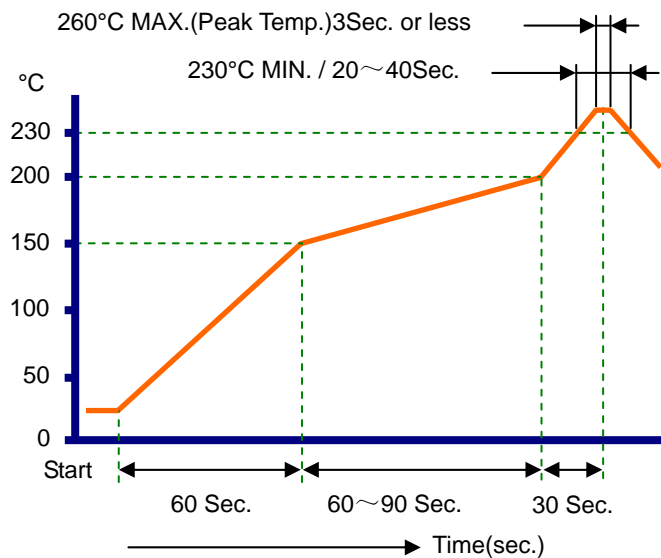
(b) Discontinuities shall not take place in this test group, during tests.

**Figure 3. Contact Resistance**



FPC Connector 0.5mm Pitch 1.0High	Product Specification	Issued Date
		99.04.16

### 8. INFRARED REFLOW CONDITION



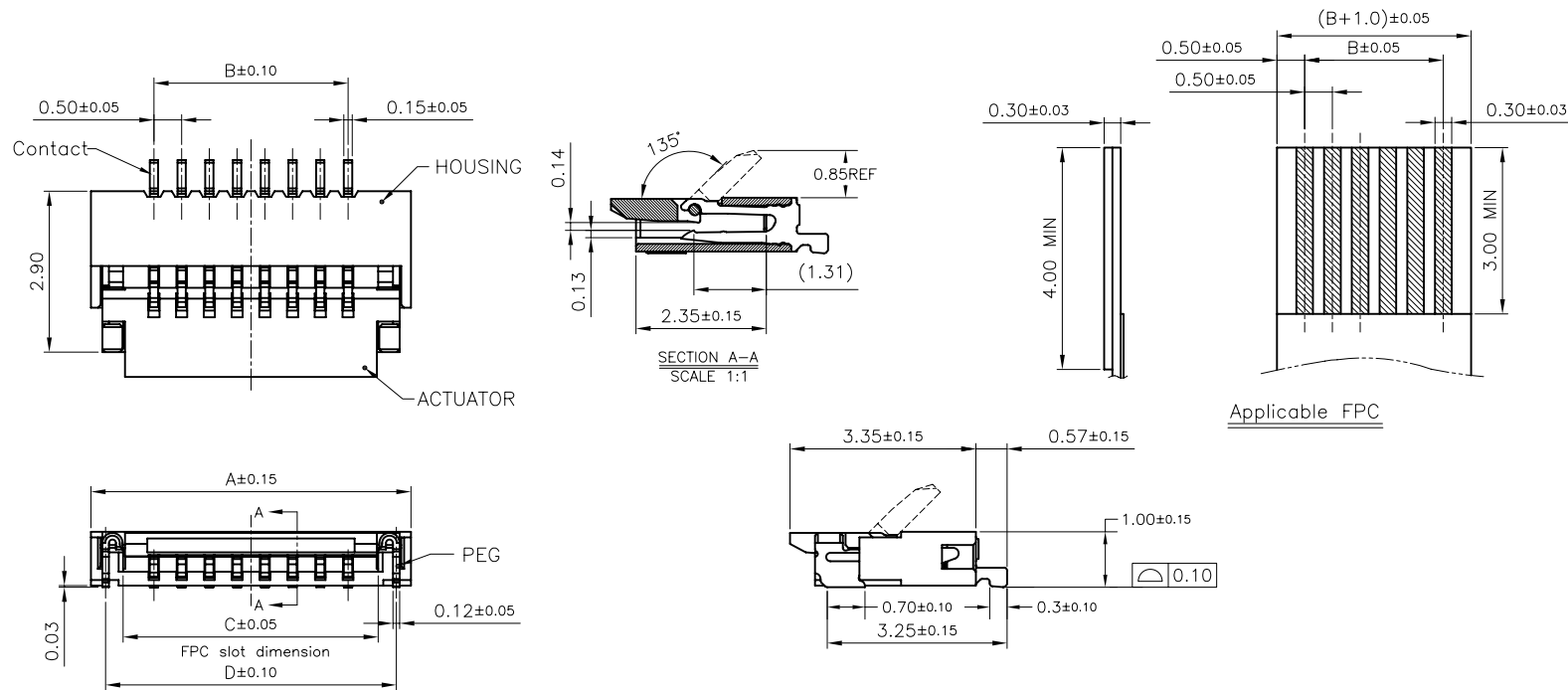
### 9. TAPE AND REEL PACKAGE SPECIFICATION

- 9-1.Tape and Reel Dimensions: See attached drawings.
- 9-2.Specification

No. of Contacts	R TYPE		
	Width	? Pcs/Reel	? Reels/ Carton
04~08	12	5000/1	11/1
09~13	16	5000/1	9/1
14~30	24	5000/1	7/1
31~40	32	5000/1	6/1
41~50	44	5000/1	5/1

Export Carton Layer: 3 Layers

Carton Size: 350x350x290mm



#### NOTES:

- MATERIAL:  
HOUSING: HIGHT-TEMP PLASTIC,UL 94V-0,COLOR:WHITE;  
ACTUATOR: HIGHT-TEMP PLASTIC,UL 94V-0,COLOR:BROWN;  
CONTACT: COPPER ALLOY;  
LEG: COPPER ALLOY;
- PLATING:  
CONTACT: GOLD OR TIN PLATED ON NICKEL OVERALL.  
LEG: TIN PLATED ON NICKEL OVERALL.
- RATING:  
CURRENT RATING: 0.4A AC/DC  
VOLTAGE RATING: 50V AC/DC  
TEMPERATURE RANGE:  $-55^\circ\text{C} \sim +85^\circ\text{C}$ ;



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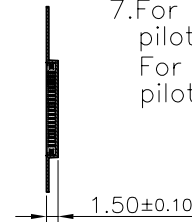
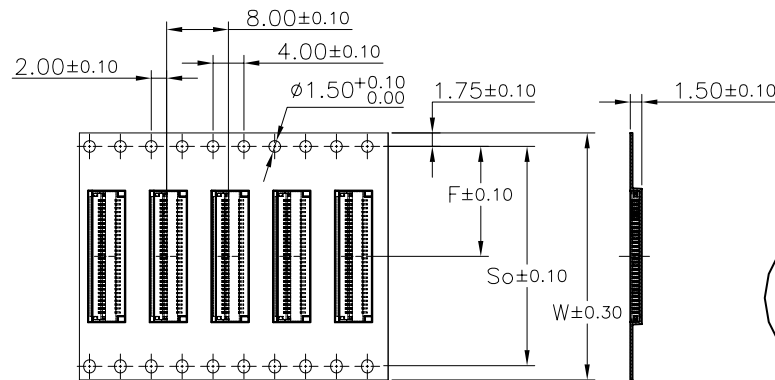
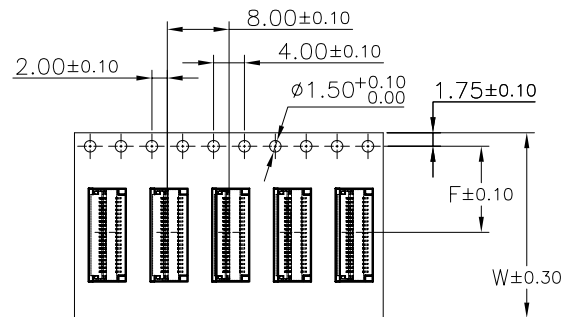
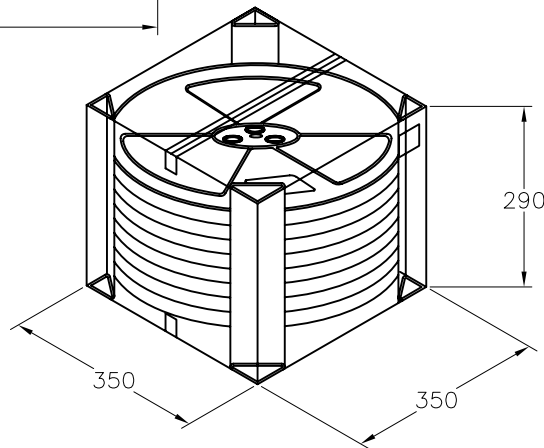
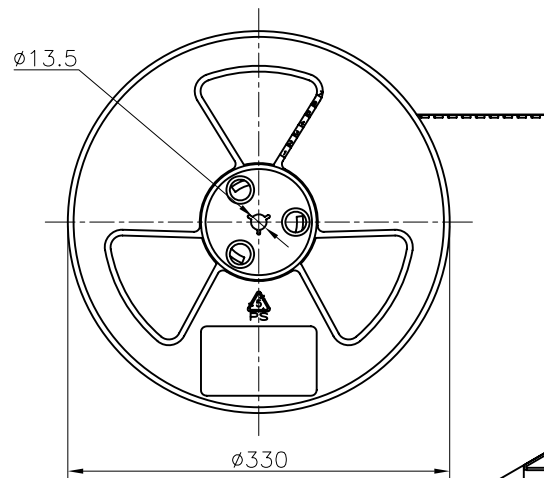
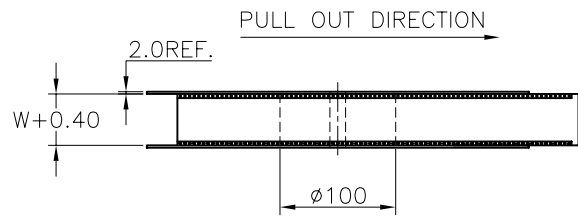
PIN NO.	DIM. A	DIM. B	DIM. C	DIM. D
04	3.77	1.50	2.60	3.27
05	4.27	2.00	3.10	3.77
06	4.77	2.50	3.60	4.27
07	5.27	3.00	4.10	4.77
08	5.77	3.50	4.60	5.27
09	6.27	4.00	5.10	5.77
10	6.77	4.50	5.60	6.27
11	7.27	5.00	6.10	6.77
12	7.77	5.50	6.60	7.27
13	8.27	6.00	7.10	7.77
14	8.77	6.50	7.60	8.27
15	9.27	7.00	8.10	8.77
16	9.77	7.50	8.60	9.27
17	10.27	8.00	9.10	9.77
18	10.77	8.50	9.60	10.27
19	11.27	9.00	10.10	10.77
20	11.77	9.50	10.60	11.27
21	12.27	10.00	11.10	11.77
22	12.77	10.50	11.60	12.27
23	13.27	11.50	12.10	12.77
24	13.77	11.50	12.60	13.27
25	14.27	12.00	13.10	13.77
26	14.77	12.50	13.60	14.27
27	15.27	13.00	14.10	14.77
28	15.77	13.50	14.60	15.27
29	16.27	14.00	15.10	15.77
30	16.77	14.50	15.60	16.27
31	17.27	15.00	16.10	16.77
32	17.77	15.50	16.60	17.27
33	18.27	16.00	17.10	17.77
34	18.77	16.50	17.60	18.27
35	19.27	17.00	18.10	18.77
36	19.77	17.50	18.60	19.27
37	20.27	18.00	19.10	19.77
38	20.77	18.50	19.60	20.27
39	21.27	19.00	20.10	20.77
40	21.77	19.50	20.60	21.27
41	22.27	20.00	21.10	21.77
42	22.77	20.50	21.60	22.27
43	23.27	21.00	22.10	22.77
44	23.77	21.50	22.60	23.27
45	24.27	22.00	23.10	23.77
46	24.77	22.50	23.60	24.27
47	25.27	23.00	24.10	24.77
48	25.77	23.50	24.60	25.27
49	26.27	24.00	25.10	25.77
50	26.77	24.50	25.60	26.27

本产品需符合 ☒ RoHS ☐ SONY00259 ☐ 其他  
※禁止使用本公司所禁用有毒物质

AO	NEW DWG	SC.Zhang	
REV	ECN.NO:	BY	DATE

-TOLERANCES- UNLESS OTHERWISE SPECIFIED 公差參考表				深圳市联泽瑞科技有限公司 SHENZHEN LIANZERUI TECHNOLOGY CO.,LTD.			
X.X	$\pm 0.30$	X.X*	$\pm 5^\circ$	APPD: 核准: Nick CHECK: 校對: SC.Zhang DRAW: 繪圖: SC.Zhang	TITLE: 0.5mm Pitch FPC CONNECTOR 產品名稱: (For T=0.30mm FFC Cable)		
X.XX	$\pm 0.20$	X.XX*	$\pm 2^\circ$		DWG NO: 產品料號: FPC051001XXLG		
X.XXX	$\pm 0.10$	X.XXX*	$\pm 1^\circ$		DATE	SCALE	UNIT
				PAGE			
				1:1 mm 1/2			

# EMBOSSED TAPE PACKING 0.5mm Pitch PC CONNECTOR , ZIF, SMT Type



- 1.10 Sprocket hole pitch cumulative tolerance  $\pm 0.20$ .
- 2.Carrier camber is within 1mm in 100mm.
- 3.Material: black conductive polystyrene alloy.
- 4.Material Thickness:  $0.3 \pm 0.05$ mm.
- 5.All dimensions meet EIA-481-B requirements.
- 6.5000pcs Pef Reel.
- 7.For tape width(dim W)16 and 24mm pilot holes are provided on one sides.  
For tape width(dim W)32, 44 and 56mm pilot holes are provided on both sides.



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No.of Contacts	DIM. W	DIM. A	DIM. B
4 ↓ 8	12	5.5	—
9 ↓ 13	16	7.5	—
14 ↓ 30	24	11.5	—
31 ↓ 40	32	14.2	28.4
41 ↓ 50	44	20.2	40.4

本产品需符合 ☒ RoHS ☐ SONY00259 ☐ 其他  
※禁止使用本公司所禁用有毒物质

A0	NEW DWG	SC.Zhang	
REV	ECN.NO:	BY	DATE

-TOLERANCES- UNLESS OTHERWISE SPECIFIED 公差參考表				 深圳市联泽瑞科技有限公司 SHENZHEN LIANZERUI TECHNOLOGY CO.,LTD.					
				 		TITLE: 0.5mm Pitch FPC CONNECTOR 產品名稱: (For T=0.30mm FFC Cable)			
X.X	±0.30	X.X*	±5°	APPD: 核准:	Nick	DWG NO: 產品料號: <b>FPC051001XXLG</b>			
X.XX	±0.20	X.XX*	±2°	CHECK: 校對:	SC.Zhang	DATE	SCALE	UNIT	PAGE
X.XXX	±0.10	X.XXX*	±1°	DRAW: 繪圖:	SC.Zhang		1:1	mm	2/2