



深圳市西格益电子有限公司

SHENZHEN CGE ELECTRONIC CO., LTD

# 承 认 书

APPROVAL SHEET

客户 (CUSTOMER): \_\_\_\_\_

品名 (DESCRIPTION): \_\_\_\_\_

FPC 80.2 CONNECTOR

客户料号 (PARTNO): \_\_\_\_\_

料号 (PARTNO): \_\_\_\_\_

907204-804003

日期 (DATE): \_\_\_\_\_

2024/6/25

编号 (NO.): \_\_\_\_\_

CGE-2406-0002

工程部 ENGINEER DEPT	品管部 QA DEPT	审核 APPROVED BY
金承鑫	何志勇	韦武

贵公司承认后, 请回签一份给厂司. 谢谢!

KINDLY RETURN ONE COPY OF THE SPECIFICATION AFTER APPROVAL

核对 CHECKED BY	确认 APPROVED BY

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BUILDING B, THIRD FLOOR, TIEGANG YICHENG INDUSTRIAL ZONE, XIXIANG STREET, BAO' AN DISTRICT, SHENZHEN CITY

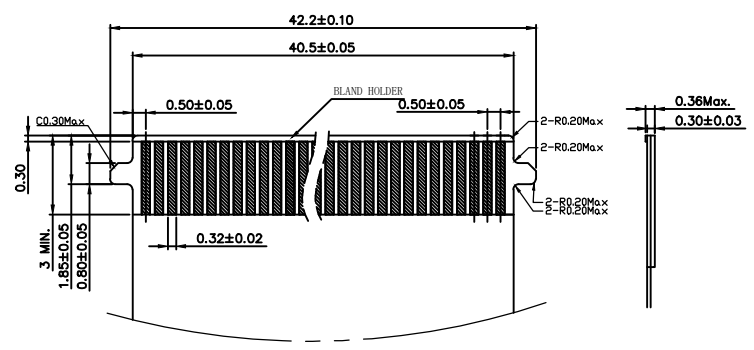
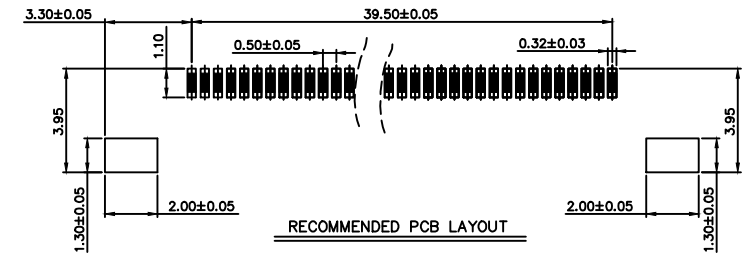
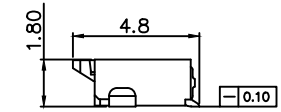
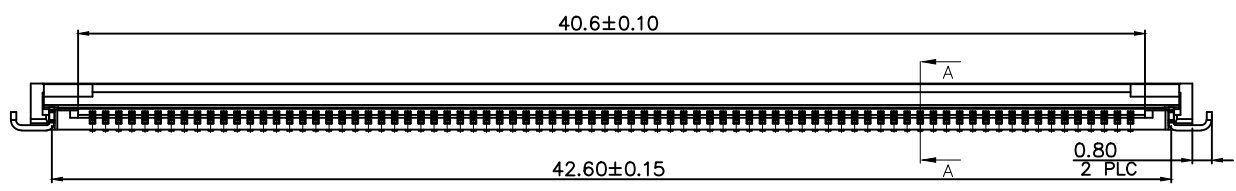
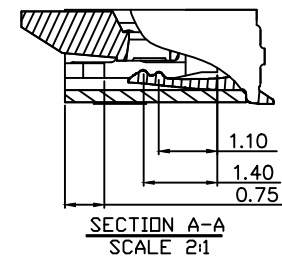
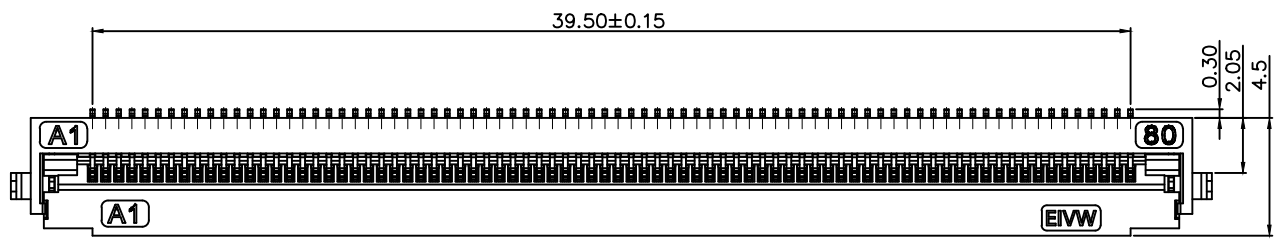
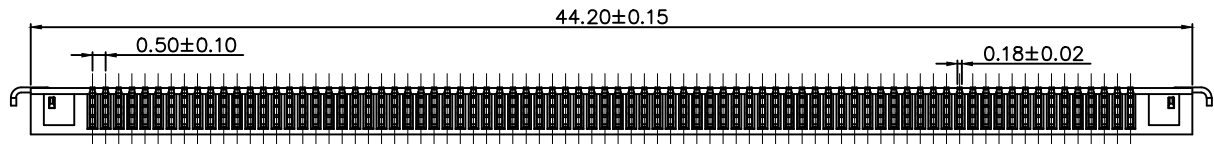
TEL: 0755-29100480

FAX: 0755-21506511

REV.	ECN.NO	ECN. REASON	DR
AO	0	INITIAL	JINCHENGXIN

NOTES:

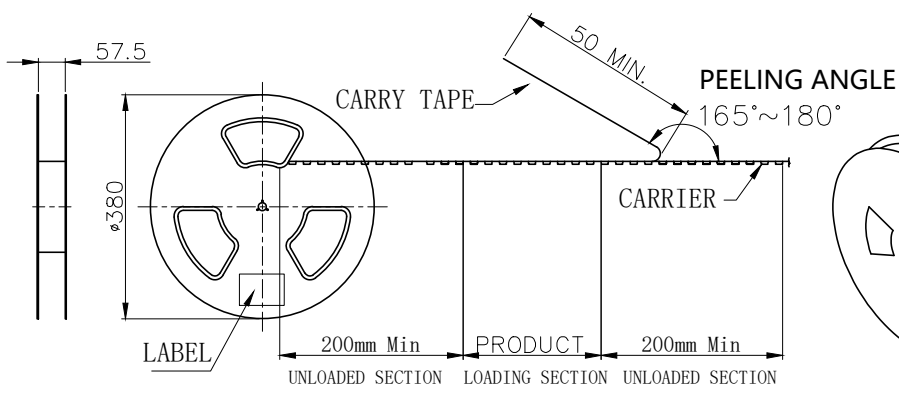
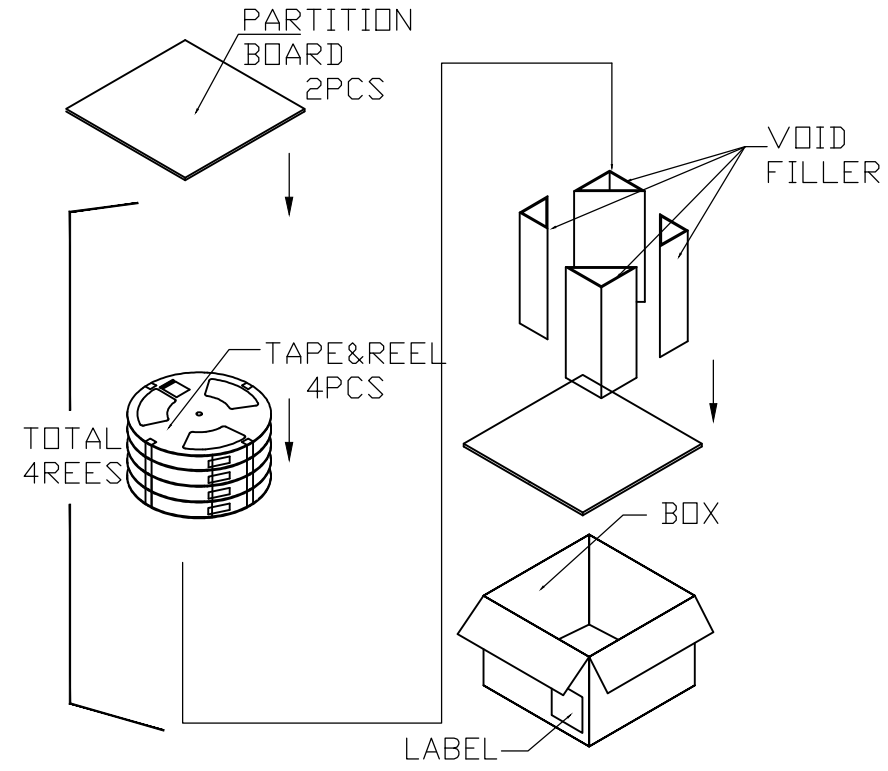
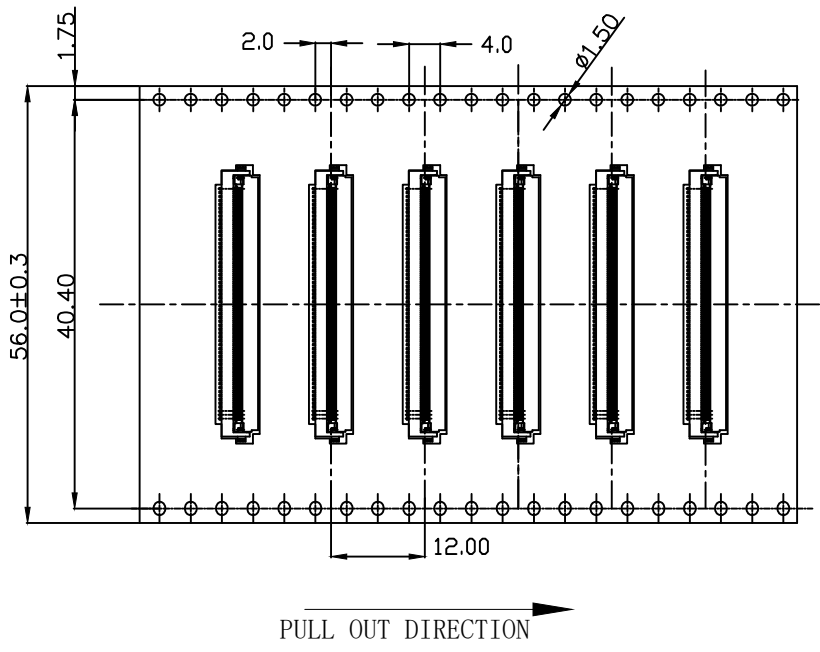
- MATERIAL:
  - HOUSING: HEIGHT TERMOPLASTIC, UL94V-0, COLOR: NATURE
  - ACTUATOR: HEIGHT TERMOPLASTIC, UL94V-0, COLOR: BLACK
  - CONTACT: COPPER ALLOY
  - PEG: COPPER ALLOY
- FINISH:
  - CONTACT AREA: Au 3u" Min OVER Ni 50u" Min
  - SMD AREA: Au 1u" Min
  - PEG: Sn 75u" Min. OVER Ni 50u" Min.



RECOMMENDED FFC DIM.  
THICKNESS: 0.3±0.03

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X: ±0.30	X': ±3'	UNIT:	MM	REV.	AO	TITLE:	0.5FPC H1.8 80P 卧贴
.XX: ±0.20	.X': ±2'	SCALE:	NA	APPROVAL:	Ken Wang		W4.8 80.2
.XXX: ±0.10	.XX': ±1'	SHEET:	1 OF 2	CHECK:	Wendell	P/N:	907204-804003
				DESIGN:	JinChengXin	DRAW NO.	C922-00XXX

REV.	ECN.NO	ECN. REASON	DR
AO	0	INITIAL	JINCHENGXIN



3000	4	12000
PCS/TAPE	REELS/BOX	PCS/BOX

		深圳市西格益电子有限公司 SHENZHEN CGE ELECTRONIC CO.,LTD					
X: ±0.30	X': ±3°	UNIT:	MM	REV.	AO	TITLE:	0.5FPC H1.8 80P 卧贴 W4.8 80.2
.XX: ±0.20	.X': ±2°	SCALE:	NA	APPROVAL:	Ken Wang		
.XXX: ±0.10	.XX': ±1°	SHEET:	2 OF 2	CHECK:	Wendell	P/N:	907204-804003
		DESIGN:	JinChengXin	DRAW NO.	C922-00XXX		



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SHENZHEN CGE ELECTRONIC CO.,LTD	REV.: B

## 1. SCOPE

适用范围

### 1.1. Contents

内容

This specification covers the performance, tests and quality requirements for the SHENZHEN CGE ELECTRONIC CO.,LTD 0.5mm Pitch Ffc Series Connector.

本规范涉及到深圳市西格益电子有限公司 0.5 mm Pitch Ffc 系列连接器的功能性要求及测试标准。

### 1.2. QUALIFICATION

条件

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

相关测试标准，需参照本规范中指定的 EIA 相关程序。所有的测试需符合规范中的测试计划及产品图纸。

## 2. APPLICABLE DOCUMENT

适用文件

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

以下文件内容系本规范的一部分，为最新版本适用。如果测试过程中，本规范与产品图纸有冲突时，以产品图纸为准。如果在本规范与涉及到的引用文件规范有冲突时，则以本规范为准。

### 2.1. Industry Standard

行业标准

EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications.

EIA - 364:电连接器/插座环测。

## 3. REQUIREMENTS

应用要求

### 3.1. Design and Construction

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

产品应用的设计、结构和外观尺寸应符合产品图纸。

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### 3.2 Materials

材料

Materials used in the construction of product shall be as specified on the applicable product drawing.

材料用于指定的产品应当适用的产品图纸。

### 3.3 Ratings

额定参数

- A. 额定电压: 50 VAC rms.
- B. 额定电流: 0.5 A Max.
- C. 工作温度: -40°C to 85°C

### 3.4 Performance Requirement and Test description

功能性需求和测试的描述

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per EIA-364.

产品是为了满足电气,机械和环境性能,如图1中指定。除非另有说明,否则所有的测试应该参照 EIA - 364。

### 3.5 Test Requirements and Procedures Summary

测试要求及内容摘要

TEST ITEM 测验项目	REQUIREMENT 要求	PROCEDURE 步骤
1 Examination of Product 产品检查	Meets requirements of product drawing. No physical damage 符合产品图纸要求,外观无伤害	Visual inspection. 外观检查
<b>ELECTRICAL REQUIREMENT</b> 电气要求		
2 Low Level Contact Resistance 接触电阻	初始: 30mΩ 最大 最终: 50mΩ 最大	FFC Gold Finger: measure by dry circuit, 20mV Max, 10mA. EIA-364-06 Shell: measure by open circuit, 5V Max, 100mA. (EIA-364-23) FFC 金手指: 弱电流电路测量,20 MV 最大,10 毫安, EIA - 364 - 06 铁壳:测量开路,5 V 最大 100 毫安, (EIA - 364 - 23)
3 Dielectric withstanding Voltage	No creeping discharge or	Mated connector, apply 250V AC (rms) for 1 minute between adjacent terminal or ground.

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	耐电压	flashover shall occur. Current leakage: 0.5mA Max 没有沿面放电、闪络发生。漏 电流:0.5 毫安最大	(EIA-364-20) 交配连接器,250 V AC(RMS)为 1 分钟相邻终端或地 面。(EIA - 364 - 20)						
4	Insulation Resistance 绝缘电阻	100M Ohm Min 100 兆欧最小	Mated connector apply 250V DC between adjacent terminals or ground. Test Duration: 60 seconds (EIA-364-21) 之间的交配连接器应用 250 V 直流相邻终端或地面。 测试时间:60 秒(EIA - 364 - 21)						
5	Temperature Rising 温升	30°C Max. under loaded rating current 30°C 最大, 在当前额定电流	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. (EIA-364-70) 端子连线接触,施加负载测试电流到电路的电流, 测 量温度上升,探索在焊接领域的接触,温度变得稳定后 扣除环境温度的测量值。(EIA - 364 - 70)						
<b>MECHANICAL REQUIREMENT</b> 机械要求									
6	Contact Retention Force 端子保持力	1N (100gf) Min.	Operation Speed : 25 mm/min. (EIA-364-13) 运行速度:25 毫米/分钟。 (EIA - 364 - 13)						
7	FFC Mating/Unmating Force FFC 插拔出力	MT:0.05N(5gf) Max./pin 插入力: 0.05N(5gf)最大每 PIN U-m:0.3N(30gf) Min./pin 拔出力: 0.3N(30gf)最小每 PIN	Operation Speed : 25 mm/min. Measure the force required to mate/unmate connector. (EIA-364-13) 运行速度:25 毫米/分钟。测量所需组装后的连接器。(EIA - 364 - 13)						
8	Durability 耐久	No evidence of physical damage. 外观没有损伤	Operation Speed : [ 100+/-50 ] cycle per hour. (Open/Close) Durability Cycles : 30 Cycles (EIA-364-09) 运行速度:每小时(100 + / -50)周期 (开启/关闭)耐久性周期:30 周期(EIA- 364 - 09)						
9	Vibration 振动	1. Discontinuity : 1 $\mu$ s Max. 2. No evidence of damage. 3. The electrical performances should meet the spec specified. 1. 不连续面:1 $\mu$ s 最大 2. 外观无损伤 3. 电气性能应符合规范规定。	Where not otherwise specified, semi-conductor devices are to conform with Condition A, and other parts with Condition B. 不是另有规定外,符合条件一个半导体设备,和其他部分 条件 B <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Condition 条件</td> <td></td> </tr> <tr> <td>Kind of Vibrat n</td> <td>requency Modulation 频率调制</td> </tr> <tr> <td>Scope of Frequency 频率的范围</td> <td>10 ~ 55Hz</td> </tr> </table>	Condition 条件		Kind of Vibrat n	requency Modulation 频率调制	Scope of Frequency 频率的范围	10 ~ 55Hz
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			Amplitude or Acceleration 振幅和加速度 1.5mm Constant 1.5 毫米常数																																												
			Ratio of Sweep 10 ~ 55 ~ 10Hz 大约 1 分钟.																																												
			Time 时间 X,Y,Z Directions Each 2hrs. X,Y,Z 方向每 2 小时																																												
10	Mechanical Shock 机械冲击	1. Discontinuity : 1 $\mu$ s Max. 2. No evidence of damage. 3. The electrical performances should meet the spec specified. 1. 不连续面:1 $\mu$ s 最大 2. 没有迹象表明损伤 3. 电气性能应符合规范规定。	Maximum Acceleration: 1,000m/s <sup>2</sup> (100G) Pulse Width: 6msec Shape of Shock Wave: Semi-sine Wave Shock Frequency : Continuously 3 times for each of 6 facets (total 18 times) 最大加速度: 1,000m/s <sup>2</sup> (100G) 脉冲持续时间: 6毫秒																																												
<b>ENVIRONMENTAL REQUIREMENTS</b> 环境要求																																															
11	Thermal Shock 热冲击	1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定	Mated Connectors or FFC -40+/-3 $^{\circ}$ C (30 min.), +85+/-2 $^{\circ}$ C (30 min.) Perform this cycle, repeat 100 cycles (EIA-364-32) 组装连接器或 FFC -40 + / - 3 $^{\circ}$ C(30 分钟),+ 85 + / - 2 $^{\circ}$ C (30 分钟)执行该循环,重复 10 次(eia - 364 - 32)																																												
12	Thermal Cycling 热循环	1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定	Cycle the connector between 15 $^{\circ}$ C +/-3 $^{\circ}$ C and 85 $^{\circ}$ C +/-3 $^{\circ}$ C. Ramps should be 2 $^{\circ}$ C min. per minute, and dwell times should ensure the contacts reach the temperature extremes (5 minutes min.). Humidity is not controlled. Perform 100 such cycles. 周期之间的连接器 15 $^{\circ}$ C +/- 3 $^{\circ}$ C 和 85 $^{\circ}$ C +/- 3 $^{\circ}$ C, 坡道应该是 2 $^{\circ}$ C 每分钟,和停顿时间应保证接触达到极端温度(5 分钟分钟), 湿度不控制, 执行 100 个周期。																																												
13	Humidity 湿度	1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定	Subject mated Connectors to 96 hours at 60 $^{\circ}$ C with 90~95% RH. (EIA-364-31 Method II Test Condition A.) 主题交配连接器在 60 $^{\circ}$ C 到 96 小时 90 ~ 95% RH。(EIA - 364 - 31 方法 II 测试条件)																																												
14	Humidity-Temperature cycle] 湿度循环	1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定	<table border="1" style="margin-top: 10px;"> <thead> <tr> <th>Stage</th> <th>Time(h)</th> <th>Temp.</th> <th>Humidity</th> </tr> </thead> <tbody> <tr><td>e</td><td></td><td></td><td></td></tr> <tr><td>a</td><td>2.5</td><td>-</td><td>90~96%RH</td></tr> <tr><td>b</td><td>3.0</td><td>65<math>^{\circ}</math>C</td><td>"</td></tr> <tr><td>c</td><td>2.5</td><td>-</td><td>80~96%RH</td></tr> <tr><td>d</td><td>2.5</td><td>-</td><td>90~96%RH</td></tr> <tr><td>e</td><td>3.0</td><td>65<math>^{\circ}</math>C</td><td>"</td></tr> <tr><td>f</td><td>2.5</td><td>-</td><td>80~96%RH</td></tr> <tr><td>g</td><td>1~4</td><td>25<math>^{\circ}</math>C</td><td>90~96%RH</td></tr> <tr><td>h</td><td>3.0</td><td>-10<math>^{\circ}</math>C</td><td>Optional</td></tr> <tr><td>i</td><td>1~4</td><td>25<math>^{\circ}</math>C</td><td>90~96%RH</td></tr> </tbody> </table>	Stage	Time(h)	Temp.	Humidity	e				a	2.5	-	90~96%RH	b	3.0	65 $^{\circ}$ C	"	c	2.5	-	80~96%RH	d	2.5	-	90~96%RH	e	3.0	65 $^{\circ}$ C	"	f	2.5	-	80~96%RH	g	1~4	25 $^{\circ}$ C	90~96%RH	h	3.0	-10 $^{\circ}$ C	Optional	i	1~4	25 $^{\circ}$ C	90~96%RH
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i	1~4	25 $^{\circ}$ C	90~96%RH																																												
15	Temperature Life (Heat Aging) 耐高温测试	1. No evidence of damage. 2. The electrical performances should meet the spec specified.	Mated conn or FFC 85 $^{\circ}$ C, 96 hours EIA-364-17B																																												

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		<p>1. 外观没有损伤 2. 电气性能应符合规范规定</p>	<p>组装后的连接器与 FFC 85℃, 96 hours EIA-364-17B</p>
<p>16</p>	<p>Salt mist 盐雾试验</p>	<p>1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定</p>	<p>Temperature : 35±2 °C Salt Water : 5% weight to concentration ratio Time : 24 hrs. 温度:35±2℃ 盐水:5%重量浓度比时间:24 小时。</p>
<p>17</p>	<p>Cold 耐低温测试</p>	<p>1. No evidence of damage. 2. The electrical performances should meet the spec specified. 1. 外观没有损伤 2. 电气性能应符合规范规定</p>	<p>Subject specimens to -25℃ for 96 hours. 条件: -25℃96小时</p>

Fig. 1

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

应满足外观要求,没有物理损伤,并满足图 2 中的相关测试群组。

### 3.6 Product Qualification and Requalification test

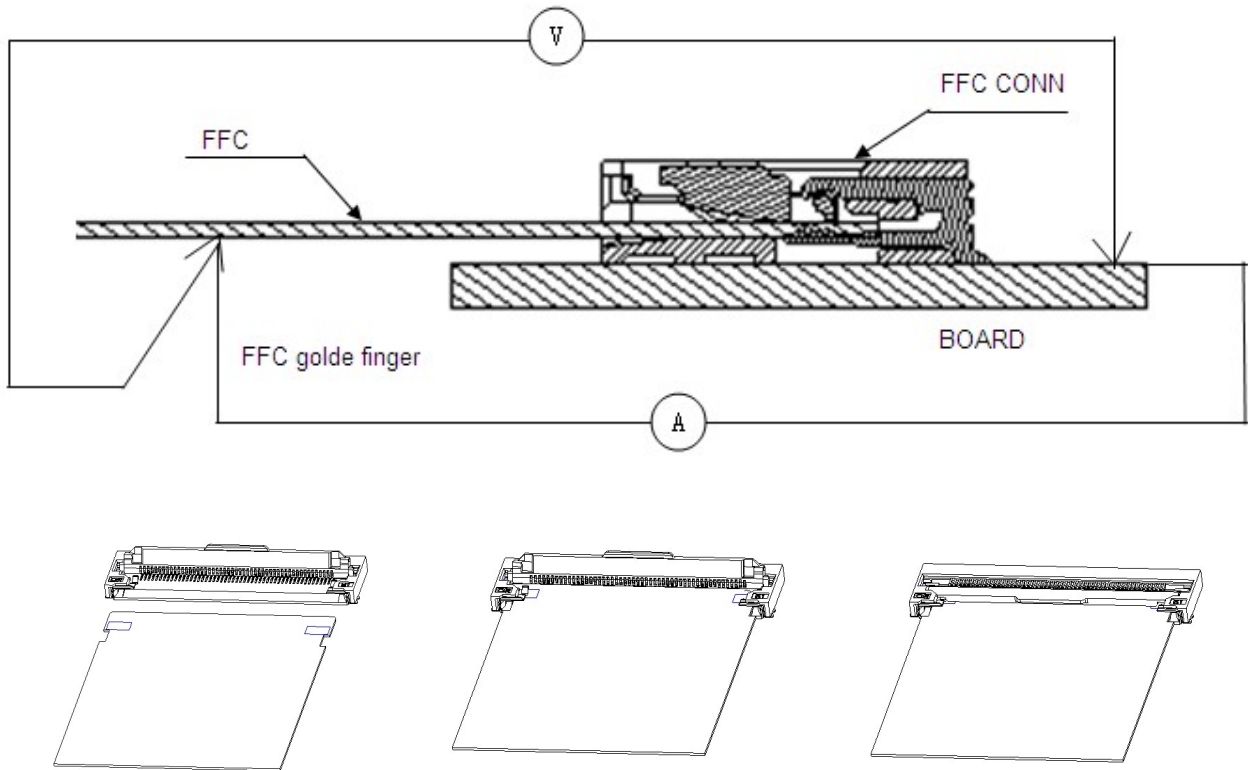
群组测试

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No.	Test or Examination 测试项目	GROUP 组													
		A	B	C	D	E	F	G	H	I	J	K			
1	Examination of Product 产品检查	1,6	1,4	1,5	1,5	1,4	1,4	1,4	1,4	1,4	1,4	1,4	1		
2	Contact resistance 接触电阻	2,7	2,5	2,6	2,6	2,5	2,5	2,5	2,5	2,5	2,5	2,5			
3	Dielectric withstanding Voltage 耐电压	4,8													
4	Insulation Resistance 绝缘电阻	3,9													
5	Temperature Rising 温升						3								
6	Retention Force 保持力												2		
7	Mating/Unmating Force 插拔力		3												
8	Durability 耐久							3							
9	Vibration 振动			3											
10	Mechanical Shock 机械冲击			4											
11	Thermal Shock 热冲击				3										
12	Thermal Cycling 热循环				4										
13	Humidity 恒温恒湿	5													
14	Humidity-Temperature cycle 湿度循环								3						
15	Temperature Life 耐高温测试					3									
16	Salt mist 盐雾试验									3					
17	Cold 耐低温实验										3				

Fig. 2

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

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

( c ) If connector contact counts are more than 20, at least 5 samples should be evaluated in each group test. Otherwise, at least 10 samples should be evaluated in each group test.

( d ) Required for connectors rated for >20 mating/unmating cycles.

(a)数据显示顺序测试执行

(b)不连续不得发生在这个测试组,在测试

(c)如果连接器接触数量超过 20,至少 5 应该评估每组测试样本,否则,每组至少 10 个样本应该评估测试

(d)连接器所需额定 > 20 交配/ unmating 周期。

### 3.7 Soldering

The Connector should be soldered using hot air convection or nitrogen oven with a minimum of seven or eight chambers (zone) recommended. The solder paste should be applied using an automatic screening process . Due to many variables involved with the reflow process (i.e. board size and thickness, component density, count and orientation), it is recommended that trial runs be conducted under actual manufacturing condition to ensure product and process compatibility. Reference reflow temperature profiles are shown in the Fig.3.

Temperature at pick-up cap should be 260degC maximum.

**Lead Free type**

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SHENZHEN CGE ELECTRONIC CO.,LTD	REV.: B

连接器应该焊接使用热空气对流或氮气炉用最少七、八室(区)推荐。锡膏应该应用使用一个自动筛选过程。由于许多变量参与回流过程(即板的尺寸和厚度、组件密度、计数和定位),建议试验在实际生产条件下进行,以确保产品和工艺的兼容性。参考回流温度资料显示在图 3。

温度回升应该是 260 摄氏度 最大。

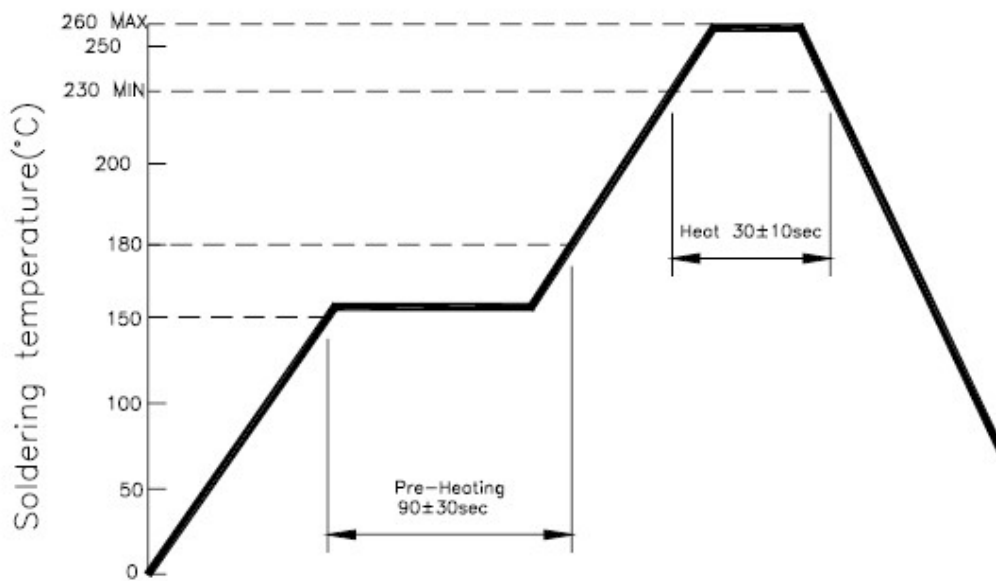


fig.3 Temperotre Profile of Reflow Soldering  
回流焊的温度曲线

# 0.5mm PITCH FPC Connector

NO.: 2024020500

## Definitions:

Samples: 5EA every group  
 Contact: arbitrarily test each samples.  
 Date Code:

## Summary:

Connector P/N: FPC80.1 Connector  
 Supplier: CGE  
 Supplier's P/N: 907204-804002  
 Product Specification: FPC 0.5Pitch Connector Rev.B

## Test sequence

Test or Examination	Test Group								
	A	B	C	D	E	F	G	H	I
Examination of product	1,6	1,4	1,5	1,5	1,4	1,4	1,4	1,4	1,4
Contact Resistance (接触电阻)	2,7	2,5	2,6	2,6	2,5	2,5	2,5	2,5	2,5
Dielectric withstanding voltage (耐压)	4,8								
Insulation Resistance (绝缘阻抗)	3,9								
Temperature rising (温升)						3			
Retention Force (保持力)									
Mating/Unmating force (插拔力)		3							
Durability (耐久)							3		
Vibration (振动)			3						
Mechanical shock (机械冲击)			4						
Thermal shock (热冲击)				3					
Thermal Cycling (热循环)				4					
Humidity (温升)	5								
Humidity-Temperature cycle (温度循环)								3	
Temperature life (耐高温)					3				
Salt mist (盐雾实验)									3
Cold (耐低温)									

WI-PB-02/06(04) Rev:02

- Note:** (a)Numbers indicate sequence in which tests are performed.  
 (b)Discontinuities shall not take place in this test group, during tests.  
 (c) If connector contact counts are more than 20,at least 5 samples should be evaluated in each group test.Otherwise,at least 10 samples should be evaluated in each group test.  
 (d)Required for connectors with a tin-based plating or <15u" plating on the connects.  
 (e)Required for connectors with a surface treatment on the contacts or for connectors with a wipe length of 0.127mm or less.  
 (f)Required for connectors rated for >20 mating/unmating cycles.

核准: wang xi

审核: wang xi

制表: wang de juan

TEST RESULT

NO.: 20240205001

GP	Test	Pass / Fail	Requirement	DATA				Judgment
				MAX.	MIN.	MEAN.	STD Dev.	Accept
A	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	30mΩ Max	23.56	18.28	20.17	2.27	Accept
	Insulation Resistance	PASS	100MΩ Min(Mated)	> 2000				Accept
	Dielectric withstanding Voltage	PASS	No breakdown	-				Accept
	Humidity	PASS	No damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩ Max	26.46	22.32	24.81	1.86	Accept
	Dielectric withstanding Voltage	PASS	No breakdown	-				Accept
	Insulation Resistance	PASS	100MΩ Min(Mated)	-				Accept
B	Examination of product	PASS	Meets product drawing	-				Accept
	Contact Resistance	PASS	30mΩ max	20.19	17.55	18.58	1.27	Accept
	Mating force	PASS	5g Max per pin	3.12	2.35	2.66	0.68	Accept
	Unmating force	PASS	30g Min per pin	43.70	38.70	43.30	2.00	Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact Resistance	PASS	50mΩ max	24.48	22.27	23.55	1.44	Accept
C	Examination of product	PASS	Meets product drawing	-				Accept
	Contact Resistance	PASS	30mΩ max	23.37	18.46	21.12	2.02	Accept
	Vibration	PASS	No damage	-				Accept
	Mechanical Shock	PASS	No damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact Resistance	PASS	50mΩ max	25.60	22.25	24.10	2.02	Accept
D	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	30mΩMax	22.17	18.85	20.06	2.08	Accept
	Thermal shock	PASS	No damaged	-				Accept
	Thermal cycling	PASS	No damaged	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩMax	26.65	21.23	24.17	1.85	Accept
	E	Examination of product	PASS	Meets product drawing	-			
Contact resistance		PASS	30mΩMax	22.65	17.22	19.36	2.90	Accept
Temperature life		PASS	No evidence of damage	-				Accept
Examination of product		PASS	Meets product drawing	-				Accept
Contact resistance		PASS	50mΩMax	24.55	17.96	22.17	3.52	Accept
F		Examination of product	PASS	Meets product drawing	-			
	Contact resistance	PASS	30mΩMax	20.75	16.88	18.37	2.78	Accept
	Temperature Rising	PASS	No evidence of damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩMax	25.55	20.17	23.08	2.68	Accept
	G	Examination of product	PASS	Meets product drawing	-			
Contact resistance		PASS	30mΩ Max	21.50	17.46	19.66	2.22	Accept
Durability		PASS	No evidence of physical damage.	-				Accept
Examination of product		PASS	Meets product drawing	-				Accept
Contact resistance		PASS	50mΩ Max	28.90	23.56	25.47	2.75	Accept
H	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	30mΩ Max	22.50	18.25	20.07	2.67	Accept
	Humidity-Temperature cycle	PASS	No evidence of damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩ Max	27.41	21.28	25.57	2.27	Accept
I	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	30mΩ Max	24.17	18.89	21.76	2.58	Accept
	Salt mist	PASS	No evidence of damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩ Max	27.32	21.25	23.33	3.17	Accept
J	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	30mΩ Max	23.00	18.58	21.32	2.86	Accept
	Cold	PASS	No evidence of damage	-				Accept
	Examination of product	PASS	Meets product drawing	-				Accept
	Contact resistance	PASS	50mΩ Max	27.14	18.85	22.17	2.80	Accept
K	Examination of product	PASS	Meets product drawing	-				Accept
	Retention Force	PASS	100g Min per pin	163.00	125.00	143.00	8.56	Accept

## MG-350(r3), LCP MG-350(r3)

File Number: E91944

Yellow Card®

**COMPANY****ENEOS LC COMPANY, LIMITED**

2647-2 HIRAIDE

TATSUNO-MACHI

KAMIINA-GUN, NAGANO 399-0422 Japan

**MODEL INFO****Xydar: MG-350(r3), LCP MG-350(r3)**

Liquid Crystal Aromatic Polymer (LCAP), furnished as pellets

(r3) – Virgin and Regrind from 26-50% by weight inclusive have the same Flame at 0.5mm and Tensile Impact characteristics at 3.0mm.

FLAMMABILITY PROPERTIES	VALUE	TEST METHOD
<b>Flammability</b>		ANSI/UL 94
0.17 mm, Color: NC, BK	V-0	
0.30 mm, Color: NC, BK	V-0	
0.50 mm, Color: NC, BK	V-0	
0.75 mm, Color: NC, BK	V-0	
0.89 mm, Color: NC, BK	V-0	
1.5 mm, Color: NC, BK	V-0	
3.0 mm, Color: NC, BK	V-0	

ISO/IEC FLAMMABILITY PROPERTIES	VALUE	TEST METHOD
<b>Flammability</b>		IEC 60695-11-10
0.17 mm, Color: NC, BK	V-0	
0.30 mm, Color: NC, BK	V-0	
0.50 mm, Color: NC, BK	V-0	

0.75 mm, Color: NC, BK	V-0
0.89 mm, Color: NC, BK	V-0
1.5 mm, Color: NC, BK	V-0
3.0 mm, Color: NC, BK	V-0

<b>ELECTRICAL PROPERTIES</b>	<b>VALUE</b>	<b>TEST METHOD</b>
<b>Hot-wire Ignition (HWI)</b>		UL 746A
0.17 mm	4 PLC	
0.30 mm	3 PLC	
0.50 mm	2 PLC	
0.75 mm	1 PLC	
0.89 mm	1 PLC	
1.5 mm	1 PLC	
3.0 mm	1 PLC	
<b>High Amp Arc Ignition (HAI)</b>		UL 746A
0.17 mm	1 PLC	
0.30 mm	1 PLC	
0.50 mm	1 PLC	
0.75 mm	1 PLC	
0.89 mm	1 PLC	
1.5 mm	1 PLC	
3.0 mm	0 PLC	
<b>Comparative Tracking Index (CTI)</b>	3 PLC	UL 746
<b>Dielectric Strength</b>	45 kV/mm	ASTM D149
<b>High Voltage Arc Tracking Rate (HVTR)</b>	0 PLC	
<b>Volume Resistivity</b>	1.0E+12 ohms-cm	ASTM D257/IEC 60093
<b>High Voltage, Low Current Arc Resistance</b>	4 PLC	
<b>THERMAL PROPERTIES</b>	<b>VALUE</b>	<b>TEST METHOD</b>
<b>Relative Thermal Index - Electrical Strength</b>		UL 746B

0.17 mm	130 °C
0.30 mm	130 °C
0.50 mm	130 °C
0.75 mm	130 °C
0.89 mm	240 °C
1.5 mm	240 °C
3.0 mm	240 °C

**Relative Thermal Index - Mechanical Impact**

UL 746B

0.17 mm	130 °C
0.30 mm	130 °C
0.50 mm	130 °C
0.75 mm	130 °C
0.89 mm	220 °C
1.5 mm	240 °C
3.0 mm	240 °C

**Relative Thermal Index - Mechanical Strength**

UL 746B

0.17 mm	130 °C
0.30 mm	130 °C
0.50 mm	130 °C
0.75 mm	130 °C
0.89 mm	240 °C
1.5 mm	240 °C
3.0 mm	240 °C

**PHYSICAL PROPERTIES****VALUE****TEST METHOD****Dimensional Stability**

0.0 %

ASTM D1042/ISO  
2796

Report Date: 1990-01-05

Revision Date: 2015-01-29

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# Component - Plastics

File Number: E106764

## POLYPLASTICS CO LTD

18-1 KONAN 2 CHOME  
MINATO-KU, TOKYO 108-8280 Japan



## LAPEROS: E473i(j)

Liquid Crystal Polymer (LCP), pellets

(j) - Virgin and regrind up to 50% by weight incl. have the same basic material characteristics with respect to flammability in NC with a minimum thickness of 1.5 mm and BK with a minimum thickness of 0.100 mm.

Flammability	Value	Test Method
Flame Rating		UL 94
0.100 mm, NC, BK	V-0	
0.75 mm, NC, BK	V-0	
1.5 mm, ALL	V-0	
3.0 mm, ALL	V-0	
Flammability Classification		IEC 60695-11-10, -20
0.100 mm, NC, BK	V-0	
0.75 mm, NC, BK	V-0	
1.5 mm, ALL	V-0	
3.0 mm, ALL	V-0	
Thermal	Value	Test Method
RTI Elec		UL 746B
0.100 mm	130 °C	
0.75 mm	130 °C	
1.5 mm	130 °C	
3.0 mm	130 °C	
RTI Imp		UL 746B
0.100 mm	130 °C	
0.75 mm	130 °C	
1.5 mm	130 °C	
3.0 mm	130 °C	
RTI Str		UL 746B
0.100 mm	130 °C	
0.75 mm	130 °C	
1.5 mm	130 °C	
3.0 mm	130 °C	

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# 福建紫金铜业有限公司

## 成品出货检验报告

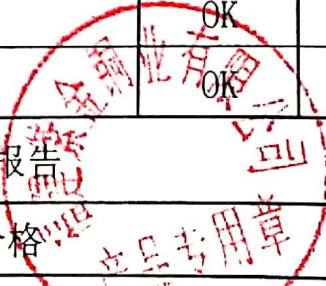
检验日期									
客户			牌号	C5191	状态	EH			
批号		Q6950314A3002		规格		卷数	15	重量kg	1749.8
检测项目		检验工具	检验条件	标准要求	检验结果			判定	备注
外观		目视	眼睛距离铜带 30-50cm, 视角 45度	参照样办	表面无异常			OK	
尺寸	厚度 (mm)	千分尺	精度0.001mm	-0.01	0.194	0.195	0.196	OK	
	宽度 (mm)	游标卡尺	精度0.01mm	±0.05	24.99	24.98	24.96	OK	
物理性能	抗拉 (MPa)	电子万能 拉力机	最大负荷50kN	635~720	680			OK	
	延伸率 (%)			5以上	13.5			OK	
	硬度 (HV)	维氏硬度计	HV0.3	200-240	220			OK	
包装标识		目视	按客户资料点检	密封/清晰	清晰			OK	
环保	标识	目视	ROHS标签	参照客户要求	正常			OK	
	环保物质要求	符合客户有害物质含量要求/提交SGS报告							
最终判定		合格 ✓				不合格			

审核: 陈春钢

检验员: 罗志霞



由 扫描全能王 扫描创建



表单编号: JL-FM-032-A0



东莞市金乐金属材料有限公司

DongGuanJinLeMetalsMaterialCo.,Ltd

# 产品质量证明书

## CERTIFICATE OF QUALITY

东莞市长安镇沙头社区沙区裕成路22号

Yucheng Road, Number22, Shatousha District, Changan Town Dongguan City

TEL:076985349000 FAX:076981617797

客户名称 Customer								牌号 Brand	C2680				
合同号 Contract No		LSGA-1703150L;LSGA-1704085G						标准 Standard No	JIS H 3100:2006				
物料编号 Item Number		130101-030R						签发日期 Date of Issue	2017-4-21				
批号 Lot No	状态 Temper	卷数 QTY	化学成份 Chemical composition					表面质量 Surface Quality	(4) OK				
			Cu	Pb	Fe	Bi	P						
704337	H	8	64-68	0.05以下	0.05以下	/	0.05以下						
尺寸 Size Tolerance							物理性能 Physical Property						
项目 Items	尺寸 Size Tolerance	实测值 Test Result					项目 Items	标准 Standard	实测值 Test Result				
厚度 Thick	0.2+0/-0.01	0.199	0.198	0.198	0.199	0.196	抗拉强度 Mpa	450-500	455	454	455	456	455
宽度 Width	13+0/-0.08	12.94	12.93	12.96	12.97	12.99	延伸率 %	≥15	17	16	17	18	17
重量 weight		12.99	12.99	12.98	301.8kg		硬度 HV	140-160	147	148	147	147	146

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检验员: 周静毅

