

# 承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): ST12-0441-G618

品名规格 (PronameSpec): SATA-7P 公头 立式 带外壳

送样日期 (Delivery Date): 2021/12/09

承认日期 (Acknowledge Date): 2021/12/14

Approved No:		客 户 Customer	
采 购 部 Purchasing Dept	品 质 部 QC Dept	工 程 部 Engineering Dept	确 认 Approved By
深 圳 市 华 联 威 电 子 科 技 有 限 公 司 SHEN ZHEN SHI HUA LIAN WEI ELECTRONICS TECHNOLOGY CO; LTD.			
业 务 部 Sales Dept	品 管 部 QC Dept	工 程 部 Engineering Dept	核 准 Checked By
将成英	欠必锋	杨桂锋	唐竹君

地址: 深圳市龙华区观澜街道桂香社区观澜桂花路 307 号

TEL: 0755-28888886 28888866

hua@hlwconn.com

[Http://www.hlwconn.com](http://www.hlwconn.com)

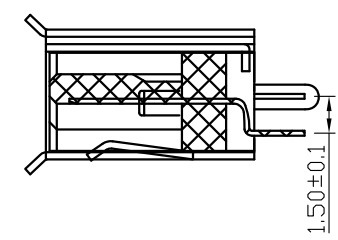
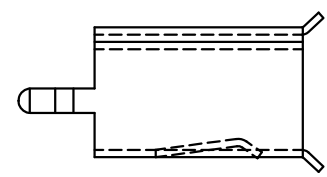
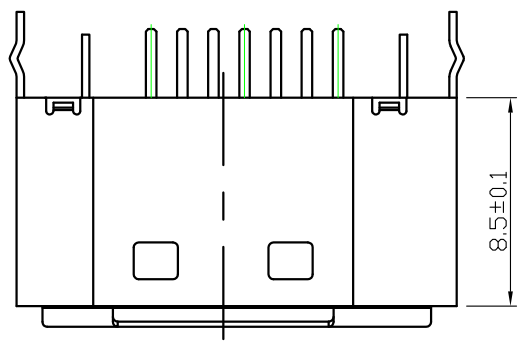


# 目 录

## Contents

图纸.....	Page03
产品规格书.....	Page04-07
产品检测报告.....	Page08
尺寸测试报告.....	Page09
电镀报告.....	Page10-11
盐雾报告.....	Page12
材质证明.....	Page13-15
SGS.....	Page16-53

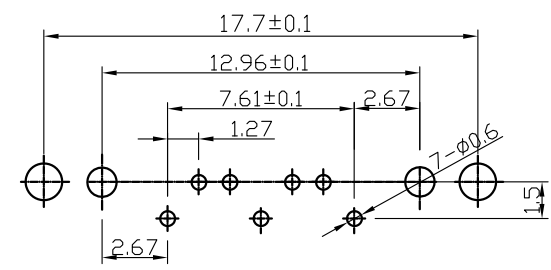
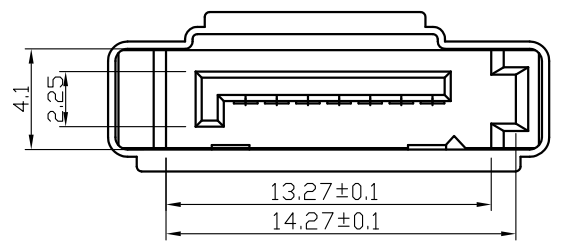
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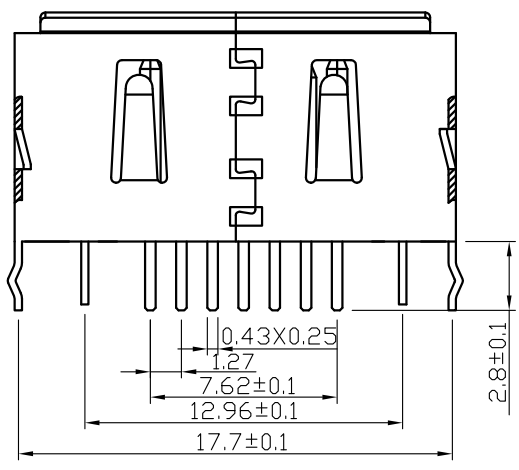
NOTE:

- MATERIAL:  
HOUSING: LCP WITH 30% GF, UL 94V-0, BLACK COLOR.  
CONTACTS: PHOSPHOR BRONZE.  
BOARDLOCKS: BRASS.
- FINISH:  
CONTACTS: GOLD FALSH PLATED ON CONTACT AREA, [100μ"] MIN..  
BRIGHT-TIN ON SOLDER TAIL, WITH ENTIRE CONTACT UNDERPLATED [50μ"] MIN.. NICKEL.  
BOARDLOCKS: [100μ"] MIN. BRIGHT-TIN OVER[50μ"] MIN. NICKEL ON ENTIRE BOARDLOCK.
- PART NUMBER DESCRIPTION :

ST12-0441-G618  
 G: 半金G/Fu" — 1: 黑色  
 6: LCP



P.C.B Layout



TOLERANCE UNLESS OTHERWISE SPECIFIED		<b>FLW</b> 深圳市华联威电子科技有限公司				
.XXX ±0.10 .XX ±0.20 .X ±0.30		.X' ±3" .XX' ±2"		HUA LIAN WEI TECHNOLOGY ELECTRONICS CO;LTD.		
APPROVED		PART NAME:				
CHECKED		PART No:		C		
DRAWN		PROJECTION:	UNIT:	SCALE	SHEET	REV.
DATE			mm	1:1	10F1	A

## SATA系列產品SPEC

TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
2	Operating Temperature	-55°C to +125 °C	
3	Storage Temperature	-25°C to 85 °C	
<b>ELECTRICAL REQUIREMENT</b>			
4	Rating Voltage	30 V RMS max	
5	Contact current rating (Power segment)	1.5A per pin minimum The temperature rise above ambient shall not exceed 30°C at any point in the connector when contact positions are powered. The ambient condition is still air at 25°C.	Mount connector to a test PCB Wire three adjacent pins in parallel for supply (or the minimum number required by the connector type) Wire three adjacent pins in parallel for return (or the minimum number required by the connector type) Apply a DC current rating per contact to the supply pins returning through the return pins Record temperature rise when thermal equilibrium is reached
6	Contact Resistance	30 mΩ (initially) maximum, $\Delta$ 15mΩ max after stress when measured at 20 mV maximum open circuit at 100 mA. Mated test contacts must be in a connector housing.	EIA 364-23 The object of this test is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur.
7	Dielectric withstanding Voltage	The dielectric shall withstand 500VAC for 1 minute at sea level.	EIA 364-20 Method B Test between adjacent contacts of mated and unmated connector assemblies.

8	Insulation Resistance	1000 M $\Omega$ minimum	EIA 364-21 After 500 VDC for 1 minute measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies.
9	Temperature Rising	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.
<b>Mechanical Requirement</b>			
10	Connector Mating Force	45 N Max	EIA-364-13 Measure the force necessary to mated the connector assemblies at a max.rate of 12.5 mm per minute.
11	Connector Unmating Force	10 N Min.through 50cycles	EIA-364-13 Measure the force necessary to mate the connector assemblies at a max.rate of 12.5 mm per minute.
12	Durability	No physical damage. Meet requirements of additional tests as specified in the test sequence.	EIA-364-09 50 cycles for intenal cabled application; 500cycles for backplane/blindmate application. Test done at a maximum rate of 200 cycles per hour.

13	Vibration	No discontinuities of 1 us longer duration.	EIA364-28 Condition V Test letter A Subject mated connectors to 5.35 g's RMS. 30minutes in each of three mutually perpendicular planes. See NOTE 2.
14	Mechanical Shock	No discontinuities of 1 us or longer duration. No physical damage.	EIA 364-27 Condition H Subject mated connectors to 30 g's half-sine shock pulses of 11 ms duration applied along three mutually perpendicular planes for atotal of 18 shocks. See NOTE 2.
15	Solder ability	contact solder tails must pass 95% coverage after one hour steam aging as specified.	1)Temperature of fused solder: 245+5°C. 2)Dipping time:5+0.5s EIA 364-52

**Environmental Requirements**

16	Resistance to Solder Heat	Forming resin shall not be distorted, and terminations shall not be separated.	1) Depth of dipping termination: the distance between the mounting surface and solder surface shall be 1 mm to 2mm. 2)Temperature:245±5°C . 3) Dipping time: 10±1s Socket EIA 364-56
17	Thermal Shock	See NOTE .	EIA 364-32 Test Condition 1. Subject mated connectors to 10 cycles between -55°C and +85°C.
18	Humidity	See NOTE .	EIA 364-31 Method II Test Condition A Subject mated connectors to 96 hours at 40°C with 90% to 95% RH.
19	Temperature Life	See NOTE.	EIA 364-17 Test Condition III Method A. Subject mated connectors to temperature life at +85°C for 500 hours.

20	Salt Spray	Visual Inspection-No physical damageLLCR-50 mΩ max per contact	Mated connector expose to 5% salt concentration for 12 hours at temperature 35+2°C .After the test specimens shall be washed with running water and dried naturally EIA 364-26
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NOTE:  
 1. Shall meet EIA 364-18 Visual Examination requirements, show no physical damage, and shall meet requirements of additional tests as specified in the sequence.  
 2.Shock and vibration test fixture is to be determined by each user with connector vendors.

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1,5	1,9	1,7	1,8	1,5	1, 5	1, 3	1, 3	1, 3	
Contact Resistance	2,4	3,7	2,4,6		3,4	2, 4				
Insulation Resistance				2,6						
Dielectric withstanding				3,7						
Mating Force		2								
Unmating Force		8								
Durability	3	4			2					
Mechanical Shock		6								
Vibration		5								
Humidity Temperature				5						
Temperature Life			3							
Thermal Shock			5	4						
Temperature Rising							2			
Solderability									2	
Resistance to Soldering								2		
Salt Spray						3	3			
備注	無客戶指定增加測試項目外，依照此標準進行產品可靠性評估。									

核准：唐竹君

制作人：覃裕华

## 測試報告

## TEST REPORT

品名稱 Part Name	SATA-7P 公头立式带外壳	測試日期 Date of Testing	2021-12-09 2021-12-14	報告編號 Report NO.	MD20211214-03
產品型號 Part Name	ST12-0441-G618	樣品數量 Quantity	5PCS	測試環境 Date of Testing	濕度 Temp:18~21℃ 相對濕度R.H.:49%~57%

## 一. 電性測試 ELECTRICAL TEST

序號 NO	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipments	規格 SPEC	測試記錄Testing Result					判定 Judge	
					1	2	3	4	5	OK	NG
1	接觸阻抗	100 mA	直流低電阻 測試儀	30mΩ Max	21.36mΩ	20.05mΩ	18.62mΩ	20.55mΩ	21.53mΩ	✓	
2	絕緣阻抗	500 VDC	絕緣電阻測試 儀	1000 MΩ Min.	Pass	Pass	Pass	Pass	Pass	✓	
3	耐壓測試	500 VAC / AC 1分钟	耐壓測試儀	No damaged	OK	OK	OK	OK	OK	✓	

## 二. 机械特性測試 MECHANICAL TEST

序號 NO	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipments	規格 SPEC	測試記錄Testing Result					判定 Judge	
					1	2	3	4	5	OK	NG
4	插入力	每分钟25±3mm的 速度	插拔力計	20N Max.	16N	13N	15N	15N	16N	✓	
5	拔出力	每分钟25±3mm的 速度	插拔力計	4N Max	OK	OK	OK	OK	OK	✓	
6	鎖口保持力	60N Min	吊重測試機	不得发生物理 损坏。	OK	OK	OK	OK	OK	✓	
7	耐久性	测试速度：每分 钟10到20个循 环，测试次数：	插拔力計	不得发生物理 损坏。	OK	OK	OK	OK	OK	✓	

## 三. 环境特性测试 ENVIRONMENTAL TEST

序號 NO	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipments	規格 SPEC	測試記錄Testing Result					判定 Judge	
					1	2	3	4	5	OK	NG
9	冷热冲击	温度-25±3℃ 温度70±2℃ 持续时间168H	高低温试验 箱	不得发生物理 损坏。	OK	OK	OK	OK	OK	✓	
10	湿温循环	温度-55±85℃, 持续时间:5qw	湿温循环机	最大接触阻 抗40mΩ	OK	OK	OK	OK	OK	✓	
11	盐雾试验	温度:35±2℃ 12小时	盐雾试验箱	最大接触阻 抗50mΩ	OK	OK	OK	OK	OK	✓	
12	可焊性	焊锡温度: 235±5℃	熔锡炉	沾锡面积达 95%以上	OK	OK	OK	OK	OK	✓	
13	焊接耐热试 验	260±5℃ 10秒	工业烘烤箱	不得发生物理 损坏	OK	OK	OK	OK	OK	✓	

綜合判定  
TEST JUDGMENT

■ 合格 (Acceptable)

□ 不合格 (Reject)





# 深圳市华联威电子科技有限公司

## 檢驗報告

首件檢驗
 入庫檢驗
 出貨檢驗
 客退檢驗
 退料檢驗
 其他
 2021年12月14日 版次:A1

料號	ST12-0441-G618	制令單號	/	送檢單位	工程部	首件製作者	裝配	
品名	SATA-7P 公头 立式 帶外 壳	客戶代號	/	批 量	/	送檢時間	/	
				數 量	5PCS	確認時間	/	
抽樣標準		<input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次		抽樣數 ( 5PCS )	AQL	CRI:0	MAJ:0.4	MIN:0.65
MIL-STD-105E(II)		<input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量			ACC/REJ	0	/	/

不良數: CRI ( / ) MAJ ( / ) MIN ( / ) 不良率(%) /

NO.	檢驗項目 單位:MM/G	檢測 儀器	檢 驗 記 錄					品管判定		CRI	MAJ	MIN	備注
			1	2	3	4	5	AC	RE				
尺 寸 測 量	8.5±0.10	D	8.51	8.50	8.51	8.52	8.53	√					
	1.50±0.10	D	1.50	1.52	1.53	1.54	1.55	√					
	4.1±0.30	D	4.12	4.14	4.17	4.15	4.16	√					
	13.27±0.10	D	13.26	13.27	13.28	13.29	13.30	√					
	14.27±0.10	D	14.25	14.26	14.27	14.28	14.30	√					
	2.25±0.20	D	2.26	2.27	2.28	2.29	2.30	√					
	2.80±0.10	D	2.81	2.82	2.83	2.84	2.85	√					
	0.43±0.20	D	0.39	0.41	0.40	0.42	0.43	√					
	1.27±0.20	D	1.28	1.29	1.30	1.31	1.27	√					
	7.62±0.10	D	7.60	7.61	7.63	7.64	7.65	√					
	12.96±0.10	D	12.97	12.98	12.99	13.01	13.02	√					
17.7±0.10	D	17.72	17.73	17.70	17.75	17.78	√						

檢驗依據: 《工程圖紙》 《檢驗規範》 《承認書》 樣品 其它

檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它

品保判定: 合格Accept 退貨Reject 特采Waive 挑選Sort

核准: 欠必鋒

審核: 刘联英

檢驗員: 但芬

电镀报告表

品名:SATA-7P 公头 立式 带外壳 (外壳)		版次:A.0			
电镀规格:Cu:40u"Ni:50u"MIN	日期:2021/12/10	页次:1/1			
厂商:金和源					
测试设备:CMI X-射线膜厚测试仪					
1、底层电镀测试(Cu)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"min	45.3u"	OK	2021/12/10	19:55:05
2	40u"min	48.5u"	OK	2021/12/10	19:55:57
3	40u"min	44.2u"	OK	2021/12/10	19:56:48
4	40u"min	45.6u"	OK	2021/12/10	19:57:31
2、表层电镀测试(Ni)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	50u"min	57.3u"	OK	2021/12/10	19:58:12
2	50u"min	55.6u"	OK	2021/12/10	19:59:04
3	50u"min	56.2u"	OK	2021/12/10	20:01:44
4	50u"min	58.3u"	OK	2021/12/10	20:02:36

核准: 欠必锋

审核: 刘联英

检验员: 但芬

## 电镀报告表

品名:SATA-7P 公头 立式 带外壳(端子)					
电镀规格:Ni40u", Sn40u"MIN, Au G/Fu"		日期:2021/12/10	页次:1/1		
厂商:同华					
测试设备:CMI X-射线膜厚测试仪					
1、底层电镀测试 (Ni)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	58.2u"	OK	2021/12/10	13:50:12
2	40u"MIN	60.7u"	OK	2021/12/10	13:50:14
3	40u"MIN	55.4u"	OK	2021/12/10	13:50:16
4	40u"MIN	61.5u"	OK	2021/12/10	13:50:18
2、表层电镀测试 (Sn)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	43.3u"	OK	2021/12/10	14:10:36
2	40u"MIN	42.4u"	OK	2021/12/10	14:10:38
3	40u"MIN	46.7u"	OK	2021/12/10	14:10:40
4	40u"MIN	43.1u"	OK	2021/12/10	14:10:42
3、表层电镀测试 (Au)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	0.5u"MIN	0.56u"	OK	2021/12/10	14:18:20
2	0.5u"MIN	0.58u"	OK	2021/12/10	14:18:22
3	0.5u"MIN	0.59u"	OK	2021/12/10	14:18:24
4	0.5u"MIN	0.57u"	OK	2021/12/10	14:18:26

核准: 欠必锋

审核: 刘联英

检验员: 但芬

## 盐水喷雾实验报告

试验方法	盐水喷雾腐蚀试验法	参考资料	MIL-STD-1216
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户	/	试验起始日期	2021年12月13日 08:00 时起
		DATE	2021年12月14日 20:00 时止
样品名称	SATA-7P 公头 立式 带外壳	试验数量	5PCS
P/N	ST12-0441-G618		

### 试验条件 (TEST CONDITION)

- 1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$ , PH值6.5-7.2).
- 2、试验室温度 (TEMP. IT THE SPRAY DHAMBR):  $35 \pm 1^\circ\text{C}$ .
- 3、盐水桶温度 (TEMP. OF SALE SOL' N TANK):  $35 \pm 1^\circ\text{C}$ .
- 4、压力桶温度 (TEMP. OF SAR SUPPLIERY):  $47 \pm 1^\circ\text{C}$ .
- 5、试验室相对湿度 (R. H IN THE CHAMBER ) 85%.
- 6、压缩空气压力 (COMPRESSED AIR PRESSURE):  $1.00 \pm 0.01\text{Kg/cm}^2$ .
- 7、样品放置位置 (SPECIMEN SUPPORTED ANGLE ): 尼龙绳吊挂 $70^\circ - 90^\circ$ .
- 8、喷雾收集量 (COLLECT RATE OF SALT SOL' N)  $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$ .
- 9、盐雾测试时间: 12小时 (H)

### 判定方法 (ADFUSGD METHOD )

试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象 (不包含折弯处), 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)

样品序号	试验后现象	判定
	PHENOMENON AFTER TEST	COMMENT
1	无蓝、绿色腐蚀物之现象	OK
2	无蓝、绿色腐蚀物之现象	OK
3	无蓝、绿色腐蚀物之现象	OK
4	无蓝、绿色腐蚀物之现象	OK
5	无蓝、绿色腐蚀物之现象	OK

核准: 欠必锋

审核: 刘联英

试验员: 但芬



# 鉅鼎銅材廠檢驗報告單

公司名稱 Customer	鉅鼎銅材廠檢驗報告單				重量 Weight(kg)	1078	出貨日期 Date	2021/11/23		
品名 Article	標準 Standard No				尺寸 Dimension		狀態 Tenper	銅卷編號 Coil No		
C2680	JISH3100:2017				0.18*400		EH	1021-C-08		
化學成分Chemical Compositions(%)										
元素 Element	Cu %	Zn%	Pb%	Fe%	\	\	\	\	化學成分	雜質
規範 Spec	64.0-68.0	餘量	<0.05	<0.05	\	\	\	\	合格	合格
實測 Actual	64.32	餘量	0.0036	0.0136	\	\	\	\	合格	合格
機械性質Mechanical Properties										
項目 Item	結晶粒度 Grain Size Mm	硬度 Hardness Hv	抗拉強度 TensionStrength Mpa	伸長度 Elongation %	導電率 Electrical Conduc %IACS	彎曲試驗 Bending Test 180	表面粗度 Surface Roughness Ra(u m)	彎曲度 Camber mm/n		
規範MAX Spec	\	170-190	490-610	\	\	\	\	\		
實測 Actual	\	178	574	5	\	\	\	\		

品質部





## Materials Information

**PRODUCT NAME: LCP M-401 BK**

**COMPOSITION/INFORMATION OF LCP M-401 BK**

**SUBSTANCE/MIXTURE: Mixture**

**SYNONYM(S): Aromatic Liquid Crystal Polymer(LCP)**

品名	比例	用途
德众泰 LCP 树脂	0.565	构成材料主要成分
抗氧化剂	0.002	抗氧化
科莱恩热稳定剂	0.003	增加高温稳定性
黑色母	0.01	着色
滑石粉	0.2	增强剂, 增加流动性
玻纤	0.22	增强

NAME OF COMPANY: DZT Engineering Plastics Tech. Co.,Ltd

ADDRESS: Building 2 Zhichong Industrial Park, Hi-Tech Zone, Jiangmen City,  
Guangdong Province, China

SECTION IN CHARGE: Quality Assurance Department

TEL/FAX: +86-750-3689920/+86-750-3689921

EMERGENCY TEL: +86-750-3689708



# 佛山市顺德区天硕贸易有限公司

Foshan Shunde Tianshuo Trade Company Limited

日期: 2021-10-19

编号: FB2110136

收货单位PURCHASER: _____				产品名称: _____ SPCC-SD											
检验标准SPECIFICATION: JIS G 3141				检验情况: _____ 合格											
产品规格 SPECIFICATION MM	钢卷号 COIL. NO	材质牌号 SYMBOL OF QUALITY	净重 WEIGHT KG	化学成份CHEMICAL COMPOSITION							力学性能MECHANICAL PROPERTIES				
				Fe %	C %	Mn %	Si %	P %	S %	AI %	抗拉强度T.S Mpa	延伸率EL (%)	屈服强度Y.S Mpa	杯突 (mm)	硬度 (HV)
0.30x1250	DL45657	SPCC-SD	7835	99	0.031	0.17	0.07	0.22	0.24		361	29	259		143
0.30x1250	DL45658	SPCC-SD	7690	99	0.032	0.16	0.07	0.21	0.22		362	30	256		141

质量控制中心:

审核: 谢和钢

制表人: 胡万银

