APPROVAL SPECIFICATIONS

Title. TYPE-C USB CONNECTOR

Product Model. TYC-324G

Customer's Part NO.

Customer's Model:

Customer's Approval Requested.

Please return this copy as a certification of your approval.

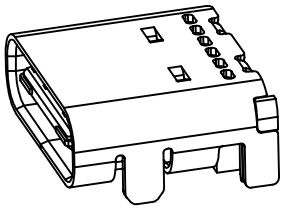
Checked by: Date:

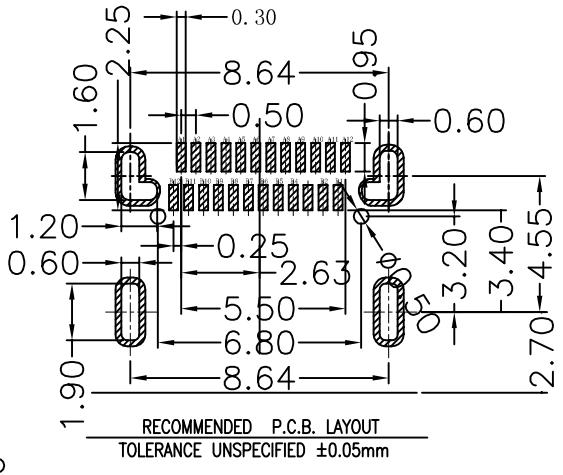
Approved by: Date:

APPROVE	REVIEW	POLT
王凯	林永坚	陈旺

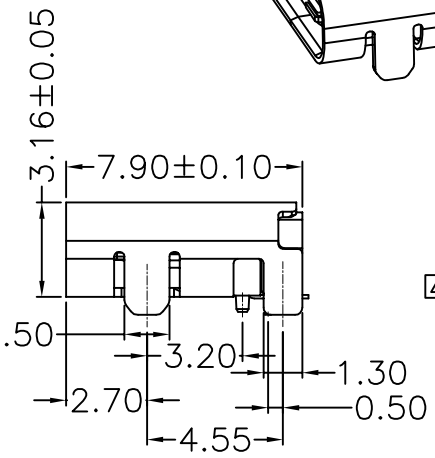
XUNPU ELECTRONICS CO.,LTD

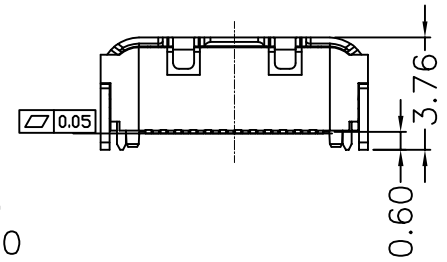
REV	LTR	DESCRIPTION	DATE	APPROVED
A0		依新料号编码原则发行图面		





RECOMMENDED P.C.B. LAYOUT
TOLERANCE UNSPECIFIED ±0.05mm





备注:
1.材质:
1.1胶芯：LCP+30%G.F UL94V-0
1.2端子：磷铜，T=0.12mm；镀半金锡1U″
1.3外壳：不锈钢，T=0.30mm；或亮锡50μ”
1.4接地片：不锈钢，T=0.10mm；
1.5卡片：不锈钢，T=0.15mm；
2.主要特性：
2.1额定电流：3A
2.2接触阻抗：30mΩ MAX
2.3绝缘阻抗：100MΩ MIN 250V DC
2.4耐压测试：250V AC
2.5沾锡性：温度250±5℃，时间5±0.5s
2.6整体插入力：3.57kgf MAX
耐久前整体拔出力:0.8kgf MIN
耐久后整体拔出力:0.60kgf MIN(匹配021专用母座)
2.7使用寿命：10000次
2.8工作温度：-30℃～+80℃

A1	GND	B12	GND
A2	SSTXP1	B11	SSRXP1
A3	SSTXN1	B10	SSRXN1
A4	VBUS	B9	VBUS
A5	CC1	B8	SBU2
A6	DP1	B7	DN2
A7	DN1	B6	DP2
A8	SBU1	B5	CC2
A9	VBUS	B4	VBUS
A10	SSRXN2	B3	SSTXN2
A11	SSRXP2	B2	SSTXP2
A12	GND	B1	GND
PIN	SIGNAL NAMF	PIN	SIGNAL NAM

TOLERANCES
.X ±0.15
.XX ±0.10
.XXX ±0.05
ANGLES ±1.00°

APPD.:
CHECK:
DRAWN:

东莞市讯普电子科技有限公司

TITLE: USB C TYPE 3.1母座双排贴片(有柱)
PART NO.: TYC-324G
DRAWING NO.:

REV.:	SIZE:	UNIT:	SCALE:	SHEET:
A/0	A4	M M	1 : 1	1 / 1

東莞市訊普電子科技有限公司
DONGGUAN XUNPU ELECTRONICS CO.,LTD

USB 3.1 TYPE-C系列产品SPEC

版本版次： B	制定日期 20160620	制定人:唐竹君	适用范围 通用

1. Scope（范围）

1.1 Contents(内容)

This specification covers the performance, tests and quality requirements for the Electronics USB 3.1 TYPE-C (此份产品规格适用于USB 3.1 TYPE-C连接器的产品功能，测试方法及质量要求)

2. Requirements (要求):

2.1 Rating(额定条件)

A. Voltage rating(额定电压):30V AC

B. Current rating(额定电流):3A

C. Operation Temperature Range(工作温度范围):-30℃ to +80℃

3. Test Condition(测试条件):

3.1 Temperature range(温度范围):-15℃ to +35℃

3.2 Humidity range (湿度范围):25% to 85%

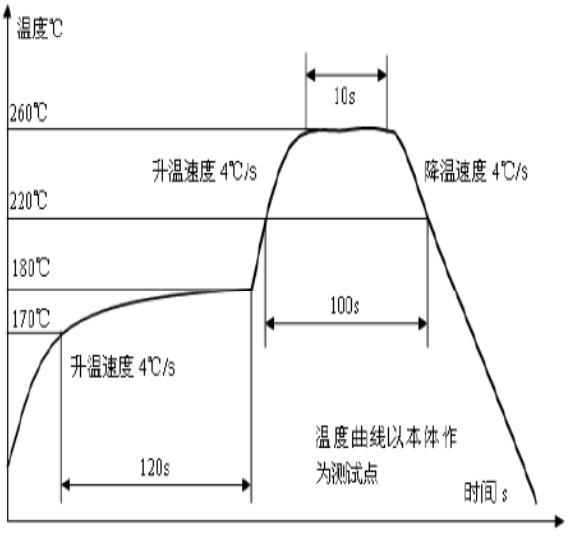
4. Test Methods and Requirements:(测试方法及要求)

4.1 Examination of product (产品外观)			
4.1.1	Examination of Product 产品外观	Visual 目视	No peeling off the plating deformation of the base or damage. 不得有电镀层剥落，塑料变形或破损
4.2. Electrical Performance(电气性能)			
4.2.1	Contact Resistance 接触阻抗	（EIA-364-06B） 适合USB 3.1 TYPE-C嵌合；开放电压20mv以下；短路电流100ma的状态下测定。 Mate applicable USB 3.1 TYPE-C and measure by dry circuit, 20mv MAX, 100mA. 40mΩMAX	40mΩ MAX

4.2.2	Dielectric Withstanding Voltage (耐电压)	（EIA-364-20C） Unmated connectors, apply 100V AC (RMS.) for 1 minute between adjacent terminals of ground. 没有配对的连接器在相邻的端子或接地之间通上100V的交流电压1分钟	1. No Breakdown or flashover 2. Leakage current:0.5mA Max 1. 不能有损坏或跳火花 2. 漏电流<0.5mA
4.2.3	nsulation Resistance 绝缘阻抗	（EIA-364-21C） Unmated connectors, apply 500V DC for 1 minute between adjacent terminals of ground. 没有配对的连接器在相邻的端子或接地之间通上500V的直流电压1分钟	100MΩ min（unmated） 没有配对需大于100 MΩ
4.3Mechanical Performance(机械性能)			
4.3.1	Insertion/Withdrawal Force 插入力/拔出力	（EIA-364-13） Insertion and withdrawal speed: 25mm/minute. 插入和拔出的速度为25mm/分	插入力 Insertion 0.50kgf/MIN，2.0kgf/MAX 拔出力 Withdrawal 0.80kgf/MIN，2.0kgf/MAX After 10000 cycles
4.3.2	Durability 寿命测试	（EIA-364-09） 适合USB 3.1 TYPE-C；用每分钟12.5mm的速度，平行的插入，拔出。 Insert and extract applicable USB 3.1 TYPE-C at the speed rate of 12.5 mm/minute.	10000 cycles
4.3.3	Vibration 振动	（EIA-364-28条件3） Amplitude:1.52mm P-P or 147m/s^2 {15G} Sweep time: 50-2000-50Hz in 20 minutes. Duration: 12 times in each (total of 36 times) X, Y, Z, axes. Electrical load DC 100mA current shall be flowed during the test.(ANSI/EIA-364-28 Condition Ⅲ) 在直流100毫安通电状态下测试，在X,Y,Z垂直3方向上，频率50-2000-50赫兹（加速度往复20分钟），全振幅1.52mm P-P或147 m/s^2 {15G}，每轴12回计36回	Appearance: No damage 外观：无损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value:30mΩ Max. 端子：从初始值开始变化量小于30mΩ 间断性：不超过1微秒

4.3.4	Physical shock 冲击性	（EIA-364-27条件A） Pulse width: 11msec Waveform: Half-sine 490m/s²（50G）3 strokes in each X, Y, Z axes. (ANSI/EIA-364-27 condition A) 周期：11msec 冲击波形：正弦半波490m/s²（50G）3 循环在X, Y, Z 轴	Appearance：No damage 外观：无损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 40mΩ Max 端子：从初始值开始变化量小于40mΩ Discontinuity: 1μ sec Max. 间断性：不超过1微秒
4.4 Environmental Performance			
4.4..1	Thermal shock test 冷热冲击	EIA-364-32C条件1） 10 cycles of: a)-55±3℃ for 30 minutes b) +85±3℃ for 30 minutes 10个循环， a)-55±3℃ 30 分钟 b) +85±3℃ 30 分钟	Appearance: No Damage. 外观：没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 40mΩ Max 端子：从初始值开始变化量小于40mΩ
4.4..2	Solder ability 焊锡性	（EIA-364-52） To be sipped in the solder bath 260±5℃ Coverage for 10±1 seconds. 将焊锡脚浸在260±5℃的锡炉中10±1秒	The inspected area of each lead must have 95% solder coverage minimum
4.4..3	Humidity 恒温恒湿	（EIA-364-31B） (A) Mate connectors together and perform the test as follows 配对的连接器测试条件 Temperature: +25℃ to +85℃(温度：+25℃到+85℃) Relative Humidity: 90% to 95%(相对湿度：90%到95%) Duration:4 cycles(96 hours) (持续时间：4个循环共96小时) Upon completion of the test, specimens shall be conditioned ambient room conditions for 24 hours, after which the specified measurements shall be performed. 试验完成后，样品放置于室温条件中24小时后再进行测试	Appearance：No Damage 外观，没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max 端子：从初始值开始变化量小于30mΩ

		（EIA-364-31B） (B) Unmated each connector and perform the test as follows. 没有配对的连接器测试条件 Temperature: +25℃ to +85℃(温度：+25℃到+85℃) Relative Humidity: 90% to 95%(相对湿度：90%到95%) Duration:4 cycles(96 hours) (持续时间：4个循环共96小时) Upon completion of the test, specimens shall be conditioned ambient room conditions for 24 hours, after which the specified measurements shall be performed. 试验完成后，样品放置于室温条件中24小时后再进行测试	Appearance：No Damage 外观，没有损坏 Conform to item of dielectric withstanding Voltage and Insulation Resistance. 符合耐电压及绝缘阻抗要求
4.4..4	Salt Spray 盐水喷雾	EIA-364-26B） Temperature: 35±2℃ 温度：35±2℃ Concentration for salt: 50% 盐水浓度：50% (1)Duration: 24H 持续时间：24小时 Condition(条件)： Contact plated gold more than 15u〞(include 15 u〞),and the material of shell for copper alloy, or stainless. 端子镀金厚度大于等于15 u〞且壳体材质是铜合金或是不锈钢 (2) Duration: 12H 持续时间：12小时 Condition(条件)： Contact plated gold less than 15 u〞,and/or the material of shell for steel 端子镀金厚度小于15u〞且/或壳体材质是铁材	No detrimental corrosion(Terminal solder tail unrequested) 产品无氧化，锈蚀（端子焊脚镀锡处不作要求）
4.4..5	Cold resistance (Unmated) 冷阻抗	（EIA-364-17B） Unmated connectors and expose to -25±3℃ for168 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. 没配对的连接器放置于-25±3℃温度中168小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子：从初始值开始变化量小于30mΩ 外壳：从初始值开始变化量小于50mΩ

4.4..6	Heat resistance (Unmated) 热阻抗	（EIA-364-17B） Mated connectors and expose to 85±2℃ for168 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. 配对的连接器放置于85±2℃温度中168小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子：从初始值开始变化量小于30mΩ 外壳：从初始值开始变化量小于50mΩ
4.4..7	Thermal Aging 高温老化	（EIA-364-31B，Condition 4， Method A） Unmated connectors and expose to +85±2℃ for 250 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. 没配对的连接器放置于+85±2℃温度中250小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 40mΩ Max 端子：从初始值开始变化量小于40m
4.4.8	IR-reflow 回流焊测试	Solder Temp：260±5℃,10±1sec 焊锡温度：260±5℃,10±1sec  	No physical damage shall occur. 不可有损坏

Note 1：Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

说明1：测试要求不能有物理损坏，测试依据表格二的顺序进行

3.Product Qualification And Requalification Test:产品测试顺序表 Figure 2

Test or Examination	Test Group													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Test Sequence														
4.1.1.Examination of Product 产品外观	1,9	1,3	1,5	1	1,5	1,5	1,5	1,3	1,5	1,5	1,5	1,5	1,5	1
4.2.1.Contact Resistance 接触阻抗	2,8		2,4		2,4	2,4	2,4		2,4	2,4	2,4	2,4	2,4	
4.2.2.Dielectric Withstanding Voltage	3,7													
4.2.3.Insulation Resistance 绝缘阻抗	4,6													
4.3.1.Insertion/Withdrawal force 插拔力		2												
4.3.2.Durability 寿命测试			3											
4.3.3.Vibration 振动性					3									
4.3.4.Physical shock 冲击性						3								
4.4.1.Thermal shock test 冷热冲击							3							
4.4.2.Solderability 焊锡性								2						
4.4.3.Humidity 恒温恒湿	5								3					
4.4.4.Salt Spray 盐水喷雾										3				
4.4.5.Cold resistance 冷阻抗											3			
4.4.6.Heat resistance 热阻抗												3		
4.4.7.Thermal Aging 高温老化													3	
4.4.8.IR-reflow 回流焊测试														2
NO. of Test samples(Min.) 测试样	5	5	5	5	5	5	5	5	5	5	5	5	5	5

NOTE 2：(a) Numbers indicate sequence in which tests are performed.

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

说明 2： (a)测试依照矩阵要求数量进行。

(b)在测试中，群组测试不能间断

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