

# APPROVAL SPECIFICATIONS

Title. TYPE-C USB CONNECTOR

Product Model. TYC-324

Customer's Part NO.

Customer's Model:

## **Customer's Approval Requested.**

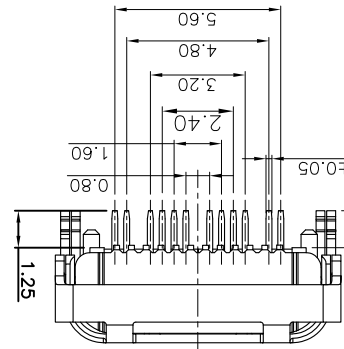
Please return this copy as a certification of your approval.

Checked by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

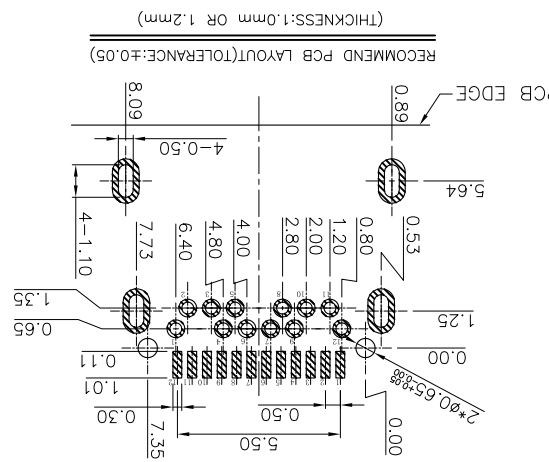
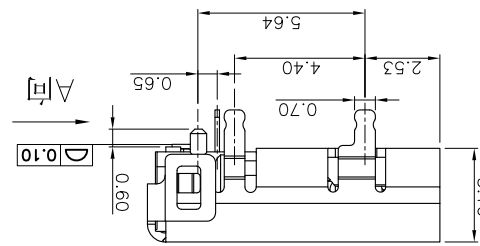
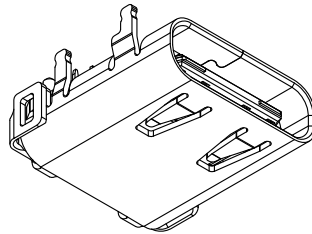
APPROVE	REVIEW	POLT
王凯	林永坚	陈旺

**XUNPU ELECTRONICS CO.,LTD**



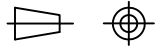
A向示意图

PIN	SIGNAL NAME	PIN	SIGNAL NAME
A1	GND	B12	GND
A2	TX1+	B11	RX1+
A3	TX1-	B10	RX1-
A4	VBUS	B9	VBUS
A5	CC1	B8	SBU2
A6	D+	B7	D-
A7	D-	B6	D+
A8	SBU1	B5	CC2
A9	VBUS	B4	VBUS
A10	RX2-	B3	TX2-
A11	RX2+	B2	TX2+
A12	GND	B1	GND



RECOMMEND PCB LAYOUT(TOLERANCE:±0.05)  
(THICKNESS:1.0mm OR 1.2mm)

-TOLERANCES-  
UNLESS OTHERWISE SPECIFIED  
公差参考表



TITLE: USB 3.1 C TYPE 母头板上1.9\*8mm  
排距0.70mm 外壳后盖材料脚长1.25mm

X.		±0.30	X.XXX	±0.100	APPD:	PRODUCT NO: TYC-324
X.X		±0.25	X.X	±3.00	CHECK:	DATE
X.XX		±0.15	X.XX	±1.00	DRAW:	2017.06.09
X.XX		±0.15	X.XX	±1.00	DRAW:	2017.06.09

DATE	06/09-17	DR.BY	Yang	ECN.NO.		DESCRIPTION	NEW-DWG	MARK		VER.	A0
------	----------	-------	------	---------	--	-------------	---------	------	--	------	----

东莞市讯普电子科技有限公司

NO.	NAME	DESCRIPTION
1	SHELL	Stainless Steel
2	INSULATOR	HIGH TEMPERATURE PLASTIC UL 94 V-0
3	CONTACT	COPPER ALLOY

Specification:  
1.Electrical Characteristics:  
Contact Current Rating: 3 Amperes Max.  
Rated Voltage: 30V Max.  
Dielectric Withstanding Voltage: AC 100V r.m.s.  
Insulation Resistance: 100 MΩ Minimum.  
Contact Resistance: 40 mΩ Maximum.  
2.Environmental:  
Operating Temperature: -40°C~+85°C.  
Mechanical Characteristics:  
Insertion Force: 5~20Nf.  
Withdrawal Force: 6~20Nf.  
Durability Cycles: 10000 Cycles.

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°C to +80°C

3. Test Condition(测试条件):

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

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
-------	--------------------------------	--------------	--

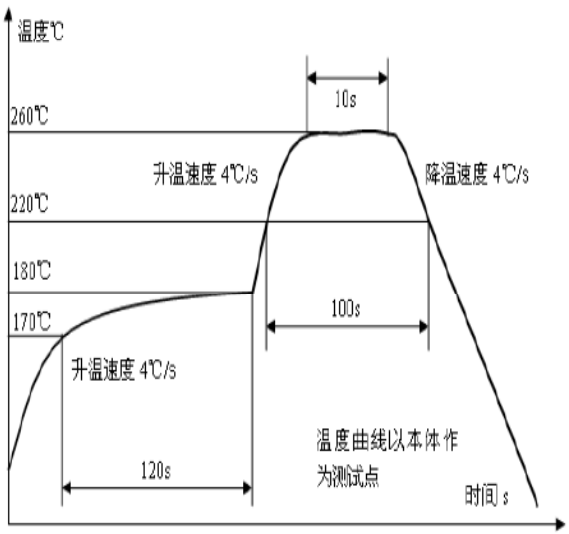
4.2. Electrical Performance(电气性能)

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)	<p>(EIA-364-20C)</p> <p>Unmated connectors, apply 100V AC (RMS.) for 1 minute between adjacent terminals of ground.</p> <p>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</p>	<p>1. No Breakdown or flashover 2. Leakage current:0.5mA Max</p> <p>1. 不能有损坏或跳火花 2. 漏电流&lt;0.5mA</p>
4.2.3	Insulation Resistance 绝缘阻抗	<p>(EIA-364-21C)</p> <p>Unmated connectors, apply 500V DC for 1 minute between adjacent terminals of ground.</p> <p>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</p>	<p>100MΩ min (unmated)</p> <p>没有配对需大于100 MΩ</p>
4.3 Mechanical Performance(机械性能)			
4.3.1	Insertion/Withdrawal Force 插入力/拔出力	<p>(EIA-364-13)</p> <p>Insertion and withdrawal speed: 25mm/minute.</p> <p>插入和拔出的速度为25mm/分</p>	<p>插入力 Insertion 0.50kgf/MIN, 2.0kgf/MAX 拔出力 Withdrawal 0.80kgf/MIN, 2.0kgf/MAX After 10000 cycles</p>
4.3.2	Durability 寿命测试	<p>(EIA-364-09)</p> <p>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.</p>	10000 cycles
4.3.3	Vibration 振动	<p>(EIA-364-28条件3)</p> <p>Amplitude:1.52mm P-P or 147m/s<sup>2</sup> {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<sup>2</sup> {15G}, 每轴12回计36回</p>	<p>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</p> <p>间断性: 不超过1微秒</p>

4.3.4	Physical shock 冲击性	(EIA-364-27条件A) Pulse width: 11msec Waveform: Half-sine 490m/s <sup>2</sup> (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/s <sup>2</sup> (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

		<p>(EIA-364-31B)</p> <p>(B) Unmated each connector and perform the test as follows. 没有配对的连接器测试条件 Temperature: +25°C to +85°C (温度: +25°C 到 +85°C) 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)</p> <p>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</p>	<p>Appearance: No Damage 外观, 没有损坏</p> <p>Conform to item of dielectric withstanding Voltage and Insulation Resistance. 符合耐电压及绝缘阻抗要求</p>
4.4..4	Salt Spray 盐水喷雾	<p>EIA-364-26B)</p> <p>Temperature: 35±2°C 温度: 35±2°C 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 15 u" 且/或壳体材质是铁材</p>	<p>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)</p>
4.4..5	Cold resistance (Unmated) 冷阻抗	<p>(EIA-364-17B)</p> <p>Unmated connectors and expose to -25±3°C for 168 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°C 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</p>	<p>Appearance: No Damage. 外观: 没有损坏</p> <p>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</p>

4.4..6	Heat resistance (Unmated) 热阻抗	<p>(EIA-364-17B)</p> <p>Mated connectors and expose to <math>85\pm 2^{\circ}\text{C}</math> for 168 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.</p> <p>配对的连接器放置于<math>85\pm 2^{\circ}\text{C}</math>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</p>	<p>Appearance: No Damage. 外观：没有损坏</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value <math>30\text{m}\Omega</math> Max Shell Part: Change from initial Value <math>50\text{m}\Omega</math> Max 端子：从初始值开始变化量小于<math>30\text{m}\Omega</math> 外壳：从初始值开始变化量小于<math>50\text{m}\Omega</math></p>
4.4..7	Thermal Aging 高温老化	<p>(EIA-364-31B, Condition 4, Method A)</p> <p>Unmated connectors and expose to <math>+85\pm 2^{\circ}\text{C}</math> 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.</p> <p>没配对的连接器放置于<math>+85\pm 2^{\circ}\text{C}</math>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</p>	<p>Appearance: No Damage. 外观：没有损坏</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value <math>40\text{m}\Omega</math> Max 端子：从初始值开始变化量小于<math>40\text{m}\Omega</math></p>
4.4.8	IR-reflow 回流焊测试	<p>Solder Temp: <math>260\pm 5^{\circ}\text{C}</math>, <math>10\pm 1\text{sec}</math> 焊锡温度：<math>260\pm 5^{\circ}\text{C}</math>, <math>10\pm 1\text{sec}</math></p> 	<p>No physical damage shall occur. 不可有损坏</p>

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



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [USB Connectors](#) category:*

*Click to view products by [XUNPU](#) manufacturer:*

Other Similar products are found below :

[10033527-N3112MLF](#) [17-210561](#) [GMCB05B11124H1EU](#) [17-200931](#) [65-647-8-BK-BU](#) [690-010-295-484](#) [73725-1191BLF](#) [950](#) [E8144-B01021-L](#) [A-USB A-LP-SMT-C](#) [A-USB B-TOP-C](#) [MUSBA511N5](#) [MUSBB15131](#) [MUSBC111M5](#) [MUSBD11135](#) [217450-1](#) [CA 6 W LD](#)  
[896-30-004-00-000000](#) [KUSBVX-BS1N-W30](#) [KUSBX-AP-KIT-SCBLK](#) [KUSBX-AS2N-W](#) [KUSBX-SMT2AP1S-W](#) [KUSBX-SMTAS1NBTR](#) [KUSBX-SMTBS1NBTR](#) [30-498-6](#) [SK-60A-2](#) [17-200261](#) [17-210051](#) [1734082-1](#) [FK-37-32SL](#) [30-1574](#) [30-470](#) [30-489](#) [30-541](#) [30-572-3](#) [30-9503](#) [M9177/2-1](#) [MAB 5 S](#) [MIKROE-1451](#) [33UBBR-04SW11R](#) [USBFTV2PEM2G](#) [USBFTVC6ZN](#) [USBFTVSCCG](#)  
[KUSBX-AS2N-W30](#) [KUSBX-SLAS1N-W](#) [KUSBX-SLAS1N-W30](#) [1-1734084-2](#) [E8110-001-01](#) [MUSBC11135](#) [NK-27-32SL](#)