Product Specification【产品规格书】	Document No.	PS-2035-01
Product Name 【产品名称】: 2.00mm Pitch 2035 Series Connector	Date Issued	2021/11/18
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This specification is only referred to the 2035 series connector

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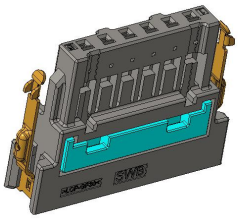
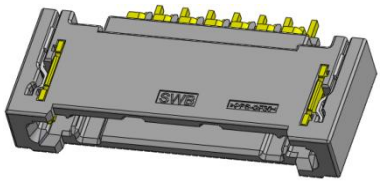
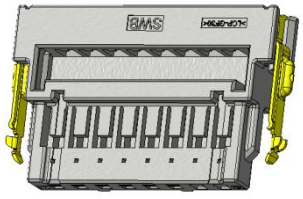
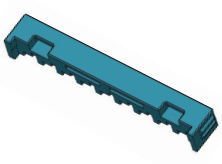
【1.适用范围 Scope】

此规格包括 2.00mm Pitch 2035C Series 连接器规格说明.

This Specification includes the 2.00mm Pitch 2035 Series Connector Specification.

【2.产品型号描述 Product Description】

产品名称 Part Name	产品料号 Part No.	产品图示 Picture
端子/Terminal	2035T-HY2B-BX	
连接头/connector	2035AM-XXBX-LPBK	
针座/Header	2035WRS-XXBX-PPSW1BR	
连接头（无 TPA) /connector（without TPA)	2035HI-XXBX-LPS3BT	
TPA	T2035-XX-4TBK	

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【3.材质与表面处理 Material and surface treatment】

规格内容 Specification		材 质 Materials	颜色/表面处理 Color/Surface treatment
端子/Terminal		高导铜 High conductivity copper	Top plating: Sn (1~3μm) overall
线端 HSG	锁扣/lock catch	不锈钢/SUS	清洗
	胶壳/Housing	LCP	UL 94V-0 黑色
	TPA	PA4T	UL 94V-0 黑色
针座 Header	空壳	PPS	UL 94V-0 黑色
	PIN	黄铜/brass	Ni 40~120u"overal,Top plating: Sn 80~200u"overall
	earthing strip	黄铜/brass	Ni 40~120u"overal,Top plating: Sn 80~200u"overall
	CPA	不锈钢/SUS	/

（上述参数请以工程图为准/Please Refer to the Project drawing for the above Specification）

【4.额定等级 Ratings and applicable wires】

项 目 Item	规格 Specification	
额定电压 Rated Voltage	125V	[AC/DC]
额定电流 Rated Current	3A	
使用温度范围 Ambient Temperature Range	-40℃~+125℃	

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【5.测试方法及要求 Test Methods and Requirements】

5-1. 外观检查 Examination of product.

测试内容 Item		规格要求 Specification requirements	参考标准 Reference standard
5-1-1	产品外观检查 Visual Inspection	借助 10 倍放大镜对每一个试验样品进行检查，详细记录所有制造或材料的瑕疵，如：裂缝、变色、毛刺等。 Inspect each sample with a 10x magnification, recording all defects in all process or material defects such as cracks, discoloration,flash,etc.	USCAR-2 Rev.8 5.1.8

5-2. 电气性能 Electrical Performance.

测试内容 Item		规格要求 Specification requirements	参考标准 Reference standard
5-2-1	电路连贯性监控 Circuit Continuity Monitoring	电流的连续性监控间断不能超过 1us 不允许任何端子电阻超过 7 欧的时间大于 1us 的情况发生 There must be no loss of electrical continuity for more than 1 microsecond There must be no instance in which the resistance of any terminal pair exceeds 7.0 Ω for more than 1 microsecond	USCAR-2 Rev.8 5.1.9
5-2-2	干电路电阻 Dry Circuit Resistance	在环境后≤25mΩ Final≤25mΩ	USCAR-2 Rev.8 5.3.1
5-2-3	电压降 Voltage Drop	在环境后≤50mV Final≤50mV	USCAR-2 Rev.8 5.3.2
5-2-4	最大试验电流能力 Maximum test current capacity	在无风的封闭场所内搭建一个电路 温度：23±5℃(室温) 时间：等待 15 分钟（电流在输出时，电路的温度达到稳定） 温升：55℃ Create a circuit in a draft free environment Temperature :23±5℃(room temperature) Time: Wait at least 15 minutes for the circuit temperature to reach Steady State Temperature Rise：55℃	USCAR-2 Rev.8 5.3.3

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5-2-5	电流循环 Current Cycling	1.测试电流为最大试验电流 90%（测试项 5-2-4） 2.通电 45 分钟，断电 15 分钟，完成 1008 个循环 3.任何端子温升不超过 55℃ 4.干电路电阻≤25mΩ 1.The test current is 90% of the maximum test current （Item:5-2-4） 2.45 minutes of power on ,15 minutes of power off ,and 1008 cycles are completed. 3.The temperature rise must not exceed 55℃ at any time during the test for any terminal 4.Dry circuit resistance is less than or equal 25mΩ	USCAR-2 Rev.8 5.3.4
5-2-6	绝缘电阻 Insulation Resistance	将试验样品的所有接端交错连接成两组，再施加 500 VDC 电压测量绝缘电阻。绝缘电阻>100 MΩ Apply 500 VDC voltage (desiccation bound) between all contacts connected together and a metal foil surrounding the housing. In addition, apply the voltage a different test sample to every two adjacent contacts. Insulation resistance >100 MΩ	USCAR-2 Rev.8 5.5.1

5-3. 机械性能 Mechanical Performance.

测试内容 Item		规格要求 Specification requirements	参考标准 Reference standard
5-3-1	连接器/端子循环 Connector and/or Terminal Cycling	完成每一对连接器或端子 10 次插拔 Completely mate and un-mate each connector or terminal pair 10 times	USCAR-2 Rev.8 5.1.7
5-3-2	端子到端子啮合/分离力 Terminal to Terminal Engage/Disengage Force	以不超过 50mm/min 的均匀速度插入-分离对配端子 注意接触面的任何磨损，不应暴露基材 Engage and disengage the mating terminals at a uniform rate not to exceed 50 mm/min No base material should be exposed	USCAR-2 Rev.8 5.2.1
5-3-3	连接器至连接器的配合/分离力（无机械辅助） Connector-Connector Mating/Unmating/ Retention Forces (non-assist)	组装所有适配组件，以 50mm/min 的均匀速度配合连接器，插入力≤75 N 以不超过 50mm/min 的均匀速度拔出配合的主锁被完全分离/禁用的连接器，拔出力≤75N Completely assemble all connector halves using all applicable components，mating the connectors at a uniform rate 50mm/min, Mating Force≤75N Disengage the mating connectors that primary lock completely disengaged/disabled at a uniform rate not to exceed 50mm/min. Unmating Force≤75N 注：组装所有适配组件，以 50mm/min 的均匀速度卡扣保持力（不含端子）不依 5.4.2.4 要求的>110N 标准。该项标准依 LV214-1 TG7 执行（下表）。 Note: All adaptive components shall be assembled, and the retaining force of the buckle (excluding terminals) shall not	USCAR-2 Rev.8 5.4.2 LV214-1 TG7 (Table 5)

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<table>
<tr><td></td><td></td><td>comply with 5.4.2.4 at a uniform speed of 50mm/min. 110 n. This standard is implemented according to LV214-1 TG7 (Table below).
Table 5 – Positive-locking contact housing holding forces<table><tr><th colspan="4">Positive-locking contact housing holding forces</th></tr><tr><th rowspan="2">Contact size in mm</th><th colspan="3">Number of pins</th></tr><tr><th>1 to 2 pins</th><th>3 to 6 pins</th><th>> 6 pins</th></tr><tr><td>0.5</td><td>> 40 N</td><td>> 50 N</td><td>> 60 N</td></tr><tr><td>0.63 to 1.2</td><td>> 60 N</td><td>> 80 N</td><td>> 100 N</td></tr><tr><td>> 1.2 to 2.8</td><td>> 80 N</td><td>> 100 N</td><td>> 100 N</td></tr><tr><td>> 2.8 to 6.3</td><td>> 100 N</td><td>> 100 N</td><td>> 100 N</td></tr><tr><td>> 6.3</td><td>> 150 N</td><td>> 150 N</td><td>> 150 N</td></tr></table></td><td></td></tr>
<tr><td>5-3-4</td><td>端子至连接器插入/保持力
Terminal-Connector Insertion/Retention Force</td><td>端子以不超过 50mm/min 的均匀速度插入连接器
端子插入力≤15N
端子以不超过 50mm/min 的均匀速度拉出连接器
端子保持力(一次锁+二次锁)≥40N
The terminal straight into the connector at a uniform rate not to exceed 50 mm/min
Insertion Force≤15N
Pull the terminal straight back from the connector at a uniform rate not to exceed 50mm/min, until pullout occurs.
Retention Force (Primary +Secondary Lock)≥40N</td><td>USCAR-2 Rev.8
5.4.1</td></tr>
<tr><td>5-3-5</td><td>混合组件的啮合分离力
Miscellaneous Component Engage/Disengage Force</td><td>15N≤啮合力≤60N
分离力：18N≤锁定到预锁≤60N
预锁到完全分离≥25N
15N≤Engagement Force≤60N
Removal Force：18N≤Lock to pre-set≤60N
Removal from Pre-state≥25N</td><td>USCAR-2 Rev.8
5.4.5</td></tr>
</table>

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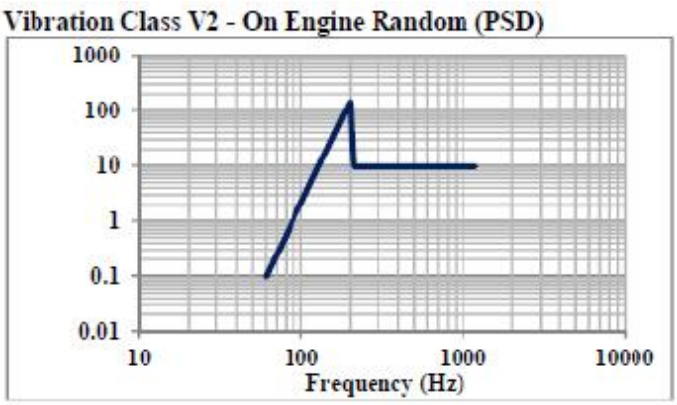
5-3-6	振动/机械冲击 Vibration/Mechanical Shock	冲击：1.加速度 35g、脉宽 5~10ms、半正弦 2.每轴 10/次、6 个轴向 振动：三个相互垂直的轴中各进行 8 小时振动测试，使用 60-1200HZ 12.1grms 没有任何端子对的电阻在 1 微秒内超过 7.0Ω的情况发生 Shock : 1. Acceleration 35 g, Duration5~10 ms, Half Sine Wave 2.Each axis 10/times ,6 axes. Vibration :8 hours of vibration test in each of the three vertical axes, using 60-1200 HZ 12.1grms Does not occur when the resistance of any terminal pair exceeds 7.0Ω within 1 microsecond.  	USCAR-2 Rev.8 5.4.6
5-3-7	极性特征有效性 Polarization Feature Effectiveness	以错误的方向将公连接器插入母连接器,公母端子间不通电 Insert the male connector into the female connector in the wrong direction, and the male and female terminals are not electrical contact	USCAR-2 Rev.8 5.4.4
5-3-8	板端 Pin 针保持力 Header Pin Retention	保持力≥15N Retention force≥15 N	USCAR-2 Rev.8 5.7.1

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5-4. 环境性能及特殊要求 Environmental Performance and Special requirements.

测试内容 Item		规格要求 Specification requirements	参考标准 Reference standard
5-4-1	热冲击 Thermal Shock	低温-40℃，高温+125℃ 低温保持 30 分钟，高温保持 30 分钟，高低温转换小于 30 秒，100 次循环，不能有任何端子电阻超过 7 欧的时间大于 1us 的情况发生 干电路电阻≤25mΩ; 电压降≤50mV Min .temperature:-40℃,Max .temperature:+125℃ Cold soak for 30 min, Heat soak for 30 min, Transfer time<30s,Cycles 100 times, There must be no instance in which the resistance of any terminal pair exceeds7.0 Ω for more than 1 microsecond Dry Circuit Resistance≤25mΩ; Voltage Drop≤50mV	USCAR-2 Rev.8 5.6.1
5-4-2	高温暴露 High Temperature Exposure	时间：1008H，温度：125℃ 干电路电阻≤25mΩ;电压降≤50mV 端子插入力≤15N 端子保持力(一次锁+二次锁)≥40N Time: 1008H，Temperature :125℃ Dry Circuit Resistance≤25mΩ; Voltage Drop≤50mV Insertion Force≤15N Retention Force (Primary +Secondary Lock)≥40N	USCAR-2 Rev.8 5.6.3
5-4-3	温度/湿度循环 Temperature/Humidity Cycling	温度变化幅度：-40℃ to 125℃ 时间：温室内 5 小时内不能进行泄漏 湿度：(80-100)% 干电路电阻≤25mΩ;电压降≤50mV 绝缘电阻>100 MΩ 端子插入力≤15N 端子保持力(一次锁+二次锁)≥40N Time: No leakage within 5 hours of greenhouse Temperature range :-40℃ to 125℃ Humidity :(80-100)% Dry Circuit Resistance≤25mΩ; Voltage Drop≤50mV Insulation resistance>100 MΩ Insertion Force≤15N Retention Force (Primary +Secondary Lock)≥40N	USCAR-2 Rev.8 5.6.2

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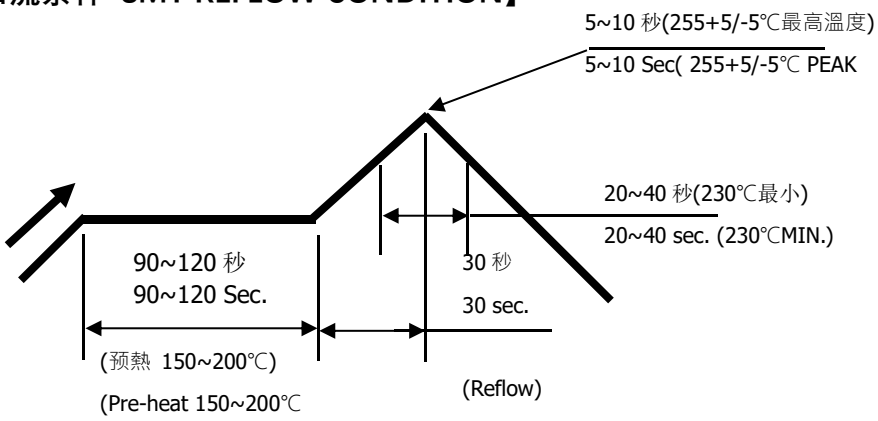
5-4-4	焊锡耐热性 Resistance to Soldering Heat	焊接时间: 5~10 秒. 焊接温度: 255+5/-5℃. Soldering time:5~10 sec solder. Temperature:255+5/-5℃.	EIA-364-56

【6. SMT 回流条件 SMT REFLOW CONDITION】



温度条件曲线图/ 基板上温度

TEMPERATURE CONDITION GRAPH/ (TEMPERATURE ON BOARD PATTERN SIDE)

注记: 由于 P.C 板等焊接装置改变条件,所以请预先用自己的装置检查回流焊的条件.

Notes: Please check the reflow soldering condition by your own devices beforehand. Because the condition changes by the soldering devices, P.C. boards, and so on.

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【7.测试组 Test Group】

流程图		端子机械测试	电气性能	连接器机械测试					
参考标准	测试序列	端子至端子的啮合/分离力	最大电流/电流循环	端子至连接器的插入/保持力	混合部件的啮合/分离力	连接器至连接器的配合/分离力	极性特征	连接器安装特征机械强度	板端 Pin 针保持力
USCAR-2	序列 ID	A	B	C	D	E	F	G	H
	测试样品	10	10	10	10	15	10	30	10
5.1.7	连接器/端子循环		2						
5.1.8	外观检查	1、3	1、5	1、3	1、3	1、3	1、3	1、3	1、3
5.2.1	端子至端子的啮合/分离力	2							
5.3.3	最大试验电流能力		3						
5.3.4	电流循环		4						
5.4.1	端子至连接器的插入/保持力			2					
5.4.2	连接器至连接器的配合/分离力（无机械辅助）					2			
5.4.4	极化特征效果						2		
5.4.5	混合部件的啮合/分离力				2				
5.4.11	连接器安装特征机械强度							2	
5.7.1	板端 Pin 针保持力								2

说明:
准备的样品应与适用于生产的说明一致，应随机从当前生产中选取

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流程图		连接器系统电性能测试顺序				
参考标准	测试序列	振动冲击	热冲击	温度/湿度循环	高温暴露	焊锡耐热性
USCAR-2 或 EIA-364	序列 ID	I	J	K	L	M
	测试样品	10	10	10	10	5
5.1.8	外观检查	1、7	1、7	1、8	1、7	1、3
5.1.7	连接器/端子循环	2	2	2	2	
5.1.9	电路连贯性监控	4	4			
5.3.1	干式电路电阻	3、5	3、5	3、5	3、5	
5.3.2	电压降	6	6	6	6	
5.4.1	端子至连接器的插入/保持力			9	8	
5.4.6	振动/机械冲击	4				
5.5.1	绝缘电阻			7		
5.6.1	热冲击		4			
5.6.2	温度/湿度循环			4		
5.6.3	高温暴露				4	
EIA-364-56	焊锡耐热性					2

注释:
（1）环境温度等级 T3: -40℃ to 125℃。
（2）振动等级 V2
（3）本产品适用于线缆选用 AWG 24~22(0.22~0.35mm²) 。