



品贊電子(東莞)有限公司

G-SWITCH ELECTRONIC(HONG KONG) CO., LIMITED ISO9001体系认证工厂

樣品承認書

客戶名稱
CUSTOMER

產品名稱
DESCRIPTION

品讚料號
G-Switch P/N:.

客戶料號
PART

客戶地址
ADDRESS

立貼TYPE C 24P公头

GT-USB-8021A

客戶確認 CUSTOMER APPEROVAL	核對 CHECK	審查 INSPEETION	核准 APPROVAL	確認蓋章 日期 DATE
-------------------------------	-------------	------------------	----------------	--------------------

品讚簽章確認:



2025/1/17

品贊電子(東莞)有限公司

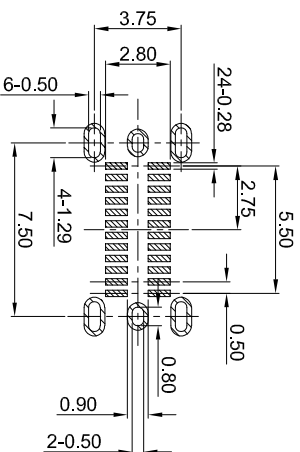
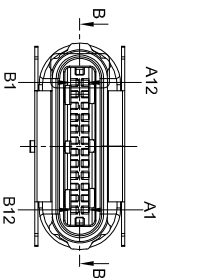
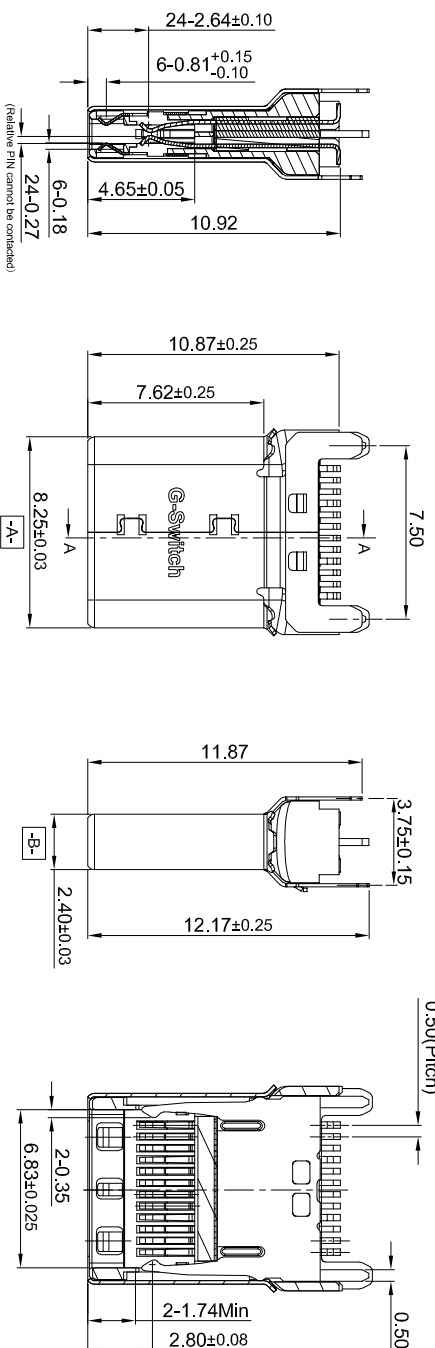
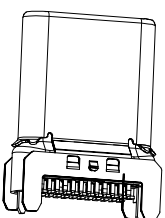
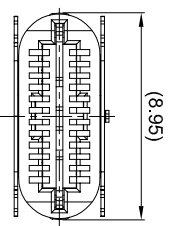
Tel: 0769-82388879 Fax: 0769-82388879

专业网址: <http://www.dg-switch.com>

公司地址: 东莞市长安镇滨海湾新区华海路2

号信鸿欧菲光科创中心2栋701号

工厂地址: 东莞长安镇猫山东路101号301室

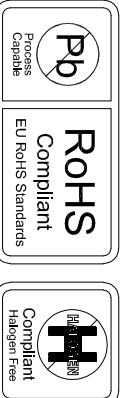


A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
GND	RX2+	RX2-	VBUS	SBUT	D-	D+	CC1	VBUS	TX1-	TX1+	GND
First	Second	Second	First	Second	Second	Second	Second	First	Second	Second	First
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
GND	TX2+	TX2-	VBUS	/CONN			SBUT	VBUS	RX1-	RX1+	GND
First	Second	Second	First	Second			Second	First	Second	Second	First

G-Switch USB-C Specification:

1. Current rated: 5A on vbus1, 25A on vcom0/0.25A on other
- Voltage rating: 24V AC
2. Withstanding voltage: 100V AC/minute
3. Contact resistance: 40mΩ Max
4. Insulation resistance: 100MΩ Min
5. Operating temperature: -40°C ~ +85°C
6. Mating force: 5N~20N
7. Umating force: 8N~20N
8. Durability cycle: 10,000 cycles

6	COVER	HIGH TEMPERATURE PLASTIC	BLACK UL 94 V-0
5	EMC SPRING	STAINLESS STEEL	NI PLATED
4	TERMINALS	COPPER ALLOY	AU PLATING ON CONTACT AREA
3	LATCH	STAINLESS STEEL	---
2	HOUSING	HIGH TEMPERATURE PLASTIC	BLACK UL 94 V-0
1	SHELL	STAINLESS STEEL	NI PLATED
NO.	NAME	DESCRIPTION	REMARKS



SCALE: 4:1		UNIT: mm			
SIZE: A4					
Unless otherwise General Tolerance:		Title: Vertical Type-c-24P Plug SMT H=10.9mm			
Model Code: G1-USB-8021A					
X _A	+0.25	DRAWN	CHECKED	APPROVED	DATE
X _B	+0.15				
X _{xx}	+0.10				
X _{xxx}	+0.05				
X _y	+0.5	Xia	Chen	Chen	2023.02.01
REV: A0 SHEET: 1/1					



品赞科技
-Switch®
www.dg-switch.com

	产品名称： 立贴TYPE C 24P公头	编码： GTUSB8021A
	品赞料号： GT-USB-8021A	规格： 8.25×2.4×10.9mm

1.Scope（范围）

1.1Contents（内容）

This specification covers the requirements for product performance and test methods of connector of USB Type c.

该标准涵品赞公司生产的USB Type-C连接器的功能要求及测试方法。

All Tests are to be performed per the procedures stated in this specification. All inspections shall be conducted using the inspection plan for this type product and the corresponding drawing.

所以测试均依据本标准规定的流程进行。所有的检测均应依据此类产品的测试计划及相应图纸执行

2.Requirements 要求：

2.1Rating额定条件

A .Voltage rating（额定电压）： 24V AC

B.Current rating（额定电流）： 5A

Contact Current Rating 5A For VBUS and GND,1.25A For Vconn,0.25A For Other.

C.Operation Temperature Range（操作温度范围）： -40°C to +85 °C.

D.Storage Temperature Range（储存温度范围）： -40°C to +85 °C.

E.Storage humidity Range:（储存湿度操作温度范围）： 0-80% RH干燥环境中.

3.Test Condition（测试条件）：

Unless otherwise specified, all tests and measurements are to be performed at the following conditions:

除特殊规定外，所有测试及量测需符合一下条件

3.1Temperature: -40°C to +85 °C 温度： -40°C to +85 °C

3.2Relative Humidity: 25% to 85% 湿度： 25% to 85%

3.3Shelf Life（保质期）： 12 months

Pressure: 86 to 106 Kpa 气压： 86 to 106 Kpa

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

4.1. Examination of product(产品外观)

Item项目	Test Condition测试条件	Requirements要求
4.1.1 Visual examination 产品外观	Visually, functionally inspected per applicable product drawing. Use magnifier or microscope if necessary. 目视检查产品与图面一致，必要时使用放大镜或显微镜。 Dimension inspection should use proper instruments. 尺寸测量使用恰当的测量设备.EIA-364-18	Visual inspection samples shall be free from defect such as damage, deformation, blister and burrs that are detrimental to the function and appearance. 样品无变形，塑胶起泡等影响测试的不良。

	产品名称： 立贴TYPE C 24P公头	编码： GTUSB8021A
	品赞料号： GT-USB-8021A	规格： 8.25×2.4×10.9mm

4.2.Electrical Performance

电气性能

Item项目	Test Condition测试条件	Requirements要求
4.2.1 Dielectric withstanding Voltage耐电压	Apply 100V RMS 60Hz for 1 minute between adjacent terminals and terminals, ground and/or shell of the unmated connector. 施加交流100V（有效值）60Hz电压于相邻两端子及端子与地，外壳之间1分钟。 EIA-364-20 method B	No voltage breakdown, Current eakage<1mA 无电压击穿，漏电流<1mA
4.2.2 Insulation resistance 绝缘电阻	Apply 100V DC for 2 minute between adjacent terminals and between terminals to ground and shell of the unmated connector. 施加100V DC的电压于相邻两端子及端子与地、外壳之间2分钟。 EIA-364-21	nsulation resistance ^100 MΩ 绝缘电阻不小于100MΩ
4.2.3 Low level contact resistance 接触电阻	Subject mated connectors in condiction of open circuit voltage 20mV DC max., 100mA max. Except wire conductor resistance; 配对的连接器，在回路施加直流最大为20mV DC 100mA低电流进行测试，导线电阻除外； EIA-364-23	The initial: 40mΩ MAX 初始值：最大40mΩ
4.2.4 Temperature Rise 温升	Plug mated, measure the temperature rise of contact at the current GEN&VBUS PIN 3.0A D+/D-/CC/SUB PIN 0.25A 配对的连接器，测试电流的温度上升情况 EIA-364-70 method 1	Temperature rise: 30°C Max. 上升温度：最大30°C

4.3.Electrical Performance

电气性能

Item项目	Test Condition测试条件	Requirements要求
4.3.1 Insertion force 插入力	Mate and un-mate connectors at a rate of 12.5mm/min. recorder after mate and un-mate 3 times. 以每分钟12.5mm/min的速度重复插拔连接器，插拔3次后记录数据 EIA-364-13	5N~20N

	产品名称： 立贴TYPE C 24P公头	编码： GTUSB8021A
	品赞料号： GT-USB-8021A	规格： 8.25×2.4×10.9mm

4.3.Electrical Performance

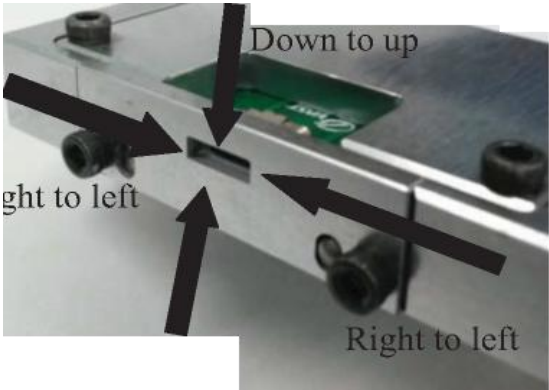
电气性能

Item项目	Test Condition测试条件	Requirements要求
4.3.2 Withdrawal force 拔出力	Mate and un-mate connectors at a rate of 12.5mm/min.The initial connector extraction force Shall be within the range of 8Nto20N Measured after a preconditioning of Five insertion /extraction cycles,after An additional twenty-five insertion / Extraction cycles, the extraction force shall be measured again . 以12.5mm/min的速度重复插拔连接器，插拔5次后记录数据（记录 第6次的数据） 再连续插拔25次后记录数据（记录 第32次的数据） EIA-364-13	Within the range of 8N to 20N Within 33% of the initial reading, 拔出力8N~20N 再插拔25次后相比初次插拔力量不超过33%
4.3.3 Durability 耐久测试	Mate and un-mating up to 10000 cycles repeatedly at cycle rate of 500 ±50 cycles per hour by machine. 以最大每小时500次的速度重复插拔10000次 EIA-364-09	After durability test: No physical damage Insertion force: 5N~20N Withdrawal force:6N~20N 耐久测试后 无物理损伤，满足外观检查内容。 插入力: 5N~20N; 拔出力: 6N~20N
4.3.4 Solder ability 可焊性	Dip solder tails into the molten solder at 260±5°C for 5±0.5 seconds. 将焊脚置于260 ± 5 °的熔锡中5 ± 0.5秒 EIA-364-52	Solder coverage 95% Min 粘锡面积不小于95%
4.3.5 摇摆弯曲 Cable Flexing	EIA 364-41 100cycles in each of 2 planes 120 degree. Dimension x=3.7x cable diameter 依据 EIA 364-41 测试方式 电缆组件与尺寸 X =电缆外径 3.7，并 在两个平面 120 度来回 100 个循环。	No discontinuity over 1 micorsecond During flexing or physical damage allowed 弯曲过程中没有物理损坏或不连续 1ms 以上应发生在。
4.3.6 负重测试 Cable Pull-Out	EIA-364-38 40N steady state axial load for 1 minute 依据 EIA-364-38 测试方式 经受 40 N 轴向负荷为最小为 1 分钟。	No discontinuity or physical damage allowed 组件没有损伤和物理损坏

	产品名称： 立贴TYPE C 24P公头	编码： GTUSB8021A
	品赞料号： GT-USB-8021A	规格： 8.25×2.4×10.9mm

4.3.Electrical Performance

电气性能

Item项目	Test Condition测试条件	Requirements要求
4.3.7 4-axes continuity test 四轴向测试	8N force for a period of 10 seconds Min; the specimen must subject to 0°, 90°, 180°, 270° direction. Force to be applied at end of overmold. EIA364-18 105°C without applied voltage for 120 hours. 105°C without applied voltage for 72 hours when used as preconditioning in EIA 364-1000.01. 8N 拉力一段 10 秒钟;标本必须服从 0°、90°、180°、270° 四个方向。 	No discontinuity greater than 1us and no physical damage to the specimen(one cable per test). Visual inspection, Test shall be done in sequences defined in EIA364-1000.01. 组件没有间断大于 1us,没有物理损害

5...Electrical Performance

环境测试

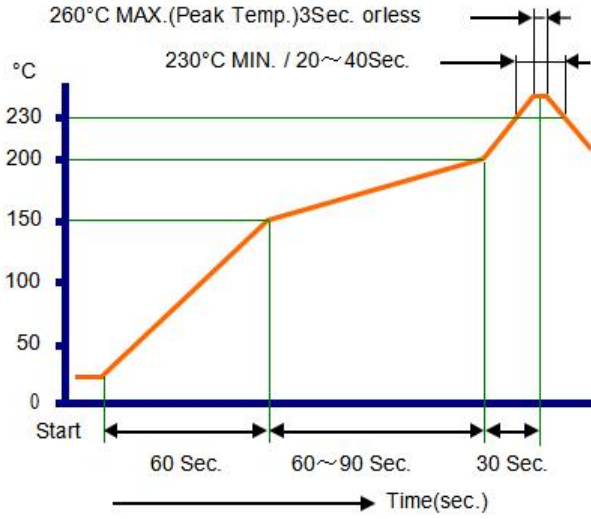
Item项目	Test Condition测试条件	Requirements要求
5.1.1 Temperature life 温度寿命	Comply with method EIA 364-32B +85°C for 500 hours mated. 将配对好的连接器置于85°C环境下500小时。	No physical damage and shall meet requirement of subsequent Tests. 外观无明显损伤 需满足后面的测试要求。
5.1.2 Mechanical shock 机械冲击	Comply with method EIA 364-27 Subjected to 6ms duration 30Gs half-sine shock pulses 6 axes. 以30g's,半正弦波(6ms),在产品6个方向冲击, EIA-364-27。	Appearance: no damage Discontinuity 1.0 microsecond Max. 产品外观无损伤 瞬断不超过1毫秒。

	产品名称： 立贴TYPE C 24P公头	编码： GTUSB8021A
	品赞料号： GT-USB-8021A	规格： 8.25×2.4×10.9mm

5...Electrical Performance

环境测试

Item项目	Test Condition测试条件	Requirements要求
5.1.3 Random Vibration 振动	Comply with method EIA 364-28 test condition V test letter A subjected mated connectors to 5.35GRMS. 15 minutes in each of three mutually perpendicular planes. 使产品在相互垂直的三个方向 5.35GRMS的振动，每个方向持续 15分钟，	Appearance: no damage Discontinuity 1.0 microsecond Max. 产品外观无损伤 瞬断不超过1毫秒。
5.1.4 Mixed Flowing Gas 混合气体	Comply with method EIA364-65ClassII A The object of this 10-day (5 days unmated and 5 days mated) (Mated test contacts must be in a connector housing.)	40mQ maximum (measured at 20 mV maximum open circuit at 100mA). 10mQ maximum change for post test LLCR after 1 durability cycle. No physical damage.
5.1.5 Salt spray 盐雾测试 IEC60068-2-11 Ka	Continuous spray at 35 ± 2°C R/H90-95% Salt NaCl mist 5% after test wash parts and return to room ambient for 1-2 hours. Mated condition STM4.3. 48Hours spray 氯化钠溶液浓度: 5±1% 浸泡时间: 接触区域48小时 温度: 35±2°C 测试后将产品清洗放置1~2小时	Without noticeable rust. Delta LLCR< 10mQ. 外观: 无明显生锈
5.1.6 Thermal shock 温度冲击	Comply with method EIA 364-32, -55°C for 15 minutes and +85°C for 30 minutes for 10 cycles, mated. 将配对好的连接器置于以下环境循环10次, -55 °C 30分钟 +85 °C 30分钟	No physical damage and shall meet requirements of subsequent tests. 外观无明显损伤 需满足后面的测试要求。
5.1.7 Cyclic humidity 湿度循环	Comply with method EIA 364-31 25°C and 65°C at 95%RH, seven cycles, mated. Duration 96H 将公母连接器互配后置于以下环境: 温度:+40±2°C 相对湿度: 95~100% 持续时间: 96h EIA-364-31	No physical damage and shall meet requirements of subsequent tests. 外观无明显损伤 需满足后面的测试要求

		产品名称：立贴TYPE C 24P公头	编码：GTUSB8021A
		品赞料号：GT-USB-8021A	规格：8.25×2.4×10.9mm
6...Welding conditions			
焊接条件			
Item项目		Recommended conditions推荐条件	
6.1.1 Hand soldering 手工焊接		Please practice according to bellow conditions: (1)Soldering temperature :≤260℃ (2)Continuous soldering time:≤5 S (3)Capacity of soldering iron:≤20 W 请按以下条件进行焊接： (1)焊锡温度：≤260℃ (2)连续焊接时间：≤5 S (3)电烙铁功率：≤20 W	
6.1.2 Automatic flow soldering 自动焊接		For the product of SMT , type solder according to the following conditions 对于SMT产品，请按以下条件进行焊接  Caution: the condition mentioned above is a temperature on the PWB surface on which parts are mounted. There are cases where PWB temperature greatly differs from connector surface temperature depending on PWB material, size, thickness, etc. The connector surface temperature shall not allowed to exceed 260℃ 注意：以上提及的条件是零部件上PWB表面的温度，由于PWB的材料、尺寸、厚度等不同，PWB从连接器表面获得的温度也会有很大产不同，因此，千万小心不要让连接器表面温度超过260℃	