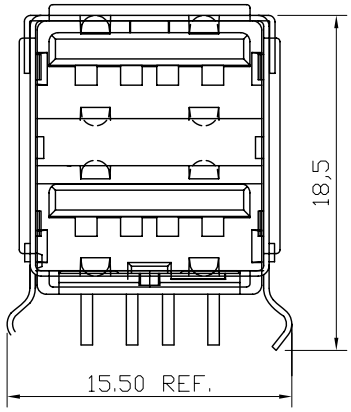
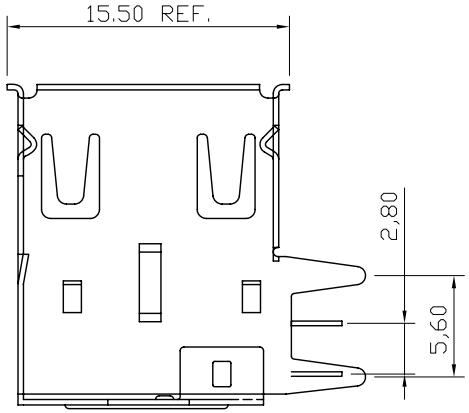
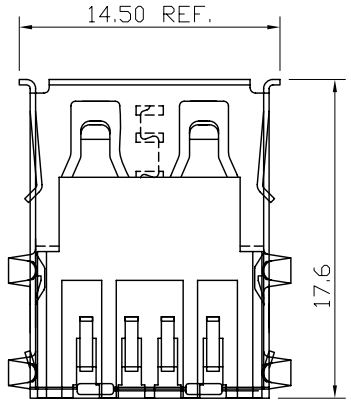
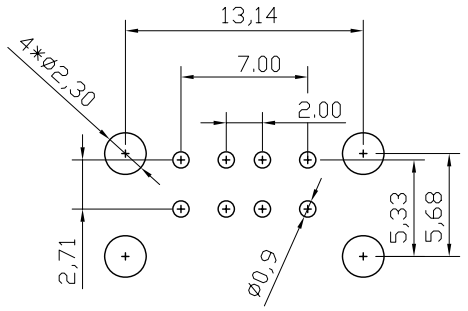


1. Material/Plated
1.1 Housing:PBT, White UL 94V-0.
1.2 Terminal:Copper Alloy, Gold Flash Plated At Contact Area, Tin Plated At Solded Area, Nickel Underplated Overall
1.3 Shrapnel:SPCC. Nickel plated
2. Electrical Performance
2.1 Rated Voltage: 30V AC
2.2 Rated Current: 1.5A
2.3 Contact Resistance: 30mΩ Max.
2.4 Insulation Resistance: 1000MΩ Min.
2.5 Dielectric Strength: 500V AC
3. Mechanical Performance
3.1 Insertion Force: 35N Max.
3.2 Withdraval Force: 10-35N
3.3 Durability: 1500 Cycles
4. Operating Temperature: -25° C To +85° C







Recommended PCB Pattern Layout
General Tolerance: ±0.05

REVISIONS				
REV.	ECN NO.	LOCATION	DESCRIPTION	DATE
			INITIALRELEASE	

SCALE	N/A	DESIGNER	LANG	23/08/16'	UNLESS OTHKRWISE SPECIFIED DIMENSIONS ARE IN mm	福大電子有限公司
REV	A	CHECKED	DAVE	23/08/16'	DIMRNSION / TOLERANCE: .XX ± 0.20; .X ± 0.30; X . ± 0.50; ANGULAR ± 5°; UNIT mm	TITLE: USB A TYPE DIP 8P 双层
SHEET	1/1	APPROVE	SEAN	28/08/16'		PART NO. UA24H20-02E15RC74E
						DWG. NO.

SPECIFICATION FOR APPROVAL

承　　認　　書

福大電子有限公司	文件編號	FD-WI-D-402
	發行日期	2015-6-18
SPECIFICATION 規格書	版本：B	頁码：1/7
SERIES 產品系列	USB /Mini USB/Micro USB	
DRAWN 設　計	Ango	APPD 審　批 Sean

1.Scope

It applies to all products which specified the application of this standard. But,when there is an item which isn't based on this standard,it mentions to the product drawing about the item.The entry of this product drawing in case has priority over more than this standard.

2.Structure,dimension and appearance

2-1.The structure,the dimension,the material of main components,and the surface finishing shall be specified in the attached drawings.

2-2.There shall be no scratches,cracks,stains or warp that are detrimental to the function or the appearance of the connector.

3.Test condition

3-1.Standard condition

Unless otherwise specified elsewhere,the following characteristics shall be defined under a temperature of 15～35℃,a relative humidity of 45～75% and an atmospheric pressure of 86～106kPa(860～1060mbar).

3-2.Reference condition

Temperature:21℃ Relative Humidity:65%RH Atmospheric Pressure:101.3kPa

But,it supposes that it has only a temperature and atmospheric pressure and that it is permitted to make a standard condition.

4.Ratings

4-1. Voltag: AC 30V;

4-2. Current: 1.5 A ; 1.0A(Mini USB,Micro USB)

4-3.Operating Temperature: - 20°C to + 85°C;

4-4.Stock Temperature: 0 to 50°C;

4-5.Reliability Temperature: -55°C to 85°C;

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5.Electrical Performance

No.	Test Description	Test Procedure	Performance Requirement
5-1	Insulation Resistance	EIA 364-21 The object of this test procedure is to detail a standard method to assess the insulation resistance of USB connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members.	1000 MΩ minimum. 100 MΩ minimum.(Mini USB)
5-2	Dielectric Withstanding Voltage	EIA 364-20 The object of this test procedure is to detail a test method to prove that a USB connector can operate safely at its rated voltage and withstand momentary over-potentials due to switching, surges, and/or other similar phenomena.	The dielectric must withstand 500V AC for one minute at sea level. The dielectric must withstand 100V AC for one minute at sea level.(Mini USB, Micro USB)
5-3	Low Level Contact Resistance	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.	30mΩ maximum(50mΩ maximum For Mini USB) When measured at 20 mV maximum open circuit at 100 mA. Mated test contacts must be in a connector housing.

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No.	Test Descriptio	Test Procedure	Performance Requirement
5-4	Contact Current Rating	EIA 364-70 — Method B The object of this test procedure is to detail a standard method to assess the current carrying capacity of mated USB connector contacts.	1.5 A at 250 V AC minimum when measured at an ambient temperature of 25 ° C. With power applied to the contacts, the Δ T must not exceed +30 ° C at any point in the USB connector under test.
5-5	Contact Capacitance	EIA 364-30 The object of this test is to detail a standard method to determine the capacitance between conductive elements of a USB connector.	2 pF maximum unmated per contact.

6.Mechanical Characteristics

No.	Test Descriptio	Test Procedure	Performance Requirement
6-1	Insertion Force	EIA 364-13 The object of this test is to detail a standard method for determining the mechanical forces required for inserting a USB connector.	35 Newtons maximum at a maximum rate of 12.5 mm (0.492”) per minute.
6-2	Extraction Force	EIA 364-13 The object of this test is to detail a standard method for determining the mechanical forces required for extracting a USB connector.	10 Newtons minimum at amaximum rate of 12.5 mm(0.492”) per minute. 7 Newtons Min. (Mini USB) 10 Newtons Min. (Micro USB)
6-3	Physical Shock	EIA 364-27 Test Condition H The object of this test procedure is to detail a standard method to assess the ability of a USB connector to withstand specified severity of mechanical shock.	No discontinuities of 1 μs or longer duration when mated USB connectors are subjected to 11 ms duration 30 Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks.

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承　　認　　書

福大電子有限公司	文件編號	FD-WI-D-402
	發行日期	2015-6-18
SPECIFICATION 承認書	版本：B	頁码：4/7

No.	Test Descriptio	Test Procedure	Performance Requirement
6-4	Durability	EIA 364-09 The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a USB connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.	USB: 1500 insertion/extraction cycles at a maximum rate of 200cycles per hour. Insertion Force:35N MAX Extraction Force:10N MAX Mini USB: 5000 insertion/extraction cycles at a maximum rate of 200cycles per hour. Insertion Force:35N MAX Extraction Force:3N MAX Micro USB: 10000 insertion/extraction cycles rate of 500 cycles per hour if doneatmatically and 200 if manual cycles Insertion Force:35N MAX Extraction Force:8N MAX
6-5		EIA 364-28 Test Condition V Test Letter A This test procedure is applicable to USB connectors that may, in service, be subjected to conditions involving vibration. Whether a USB connector has to function during	No discontinuities of 1 μs or longer duration when mated USB connectors are subjected to

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7.Environmental Characteristics

No.	Test Descriptio	Test Procedure	Performance Requirement
	Random Vibration	vibration or merely to survive conditions of vibration should be clearly stated by the detailed product specification. In either case, the relevant specification should always prescribe the acceptable performance tolerances.	5.35 Gs RMS. 15 minutes in each of three mutually perpendicular planes.
7-1	Thermal Shock	EIA 364-32 Test Condition I The object of this test is to determine the resistance of a USB connector to exposure at extremes of high and low temperatures and to the shock of alternate exposures to these extremes, simulating the worst case conditions for storage,transportation, and application.	10 cycles －55 ° C and +85 ° C. The USB connectors under test must be mated.
7-2	Humidity Life	EIA 364-31 Test Condition A Method III The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in USB connectors as they are influenced by the effects of high humidity and heat.	168 hours minimum (seven complete cycles). The USB connectors under test must be tested in accordance with EIA 364-31.
7-3	Solderability	EIA 364-52 The object of this test procedure is to detail a uniform test method for determining USB connector solderability. The test procedure contained herein utilizes the solder dip technique. It is not intended to test or evaluate solder cup, solder eyelet, other hand-soldered type, or SMT type terminations.	USB contact solder tails must pass 75% coverage after one hour steam aging as specified in Category 2. Micro USB: USB contact solder tails must pass 75% coverage after 8 hour steam age.

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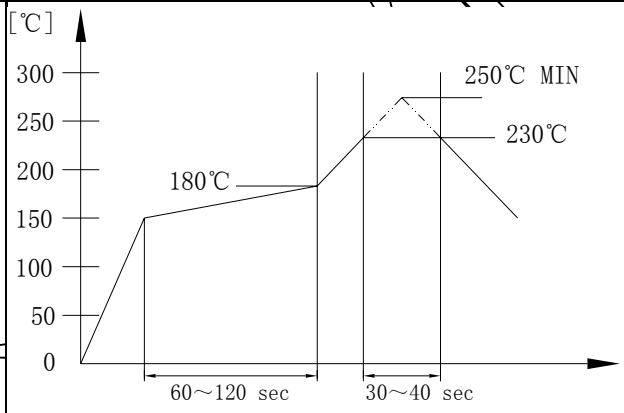
承　　認　　書

No.	Test descriptio	Procedure	Requirement	
7-4	Withstand Temperature For SMT type	 Preheat: 150～180℃ 60～120 sec Mainheat: 230℃ or more 30～40 sec Peak: 250℃ max. number of time: 2 times	Appearance	No damage

8.Connector Pin Assignments

USB:

Contact Number	Signal Name	Typical Wiring Assignment
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black
Shell	Shield	Drain Wire

Mini USB 5P/Micro USB:

Contact Number	Signal Name	Typical Wiring Assignment
1	VBUS	Red
2	D-	White
3	D+	Green
4	ID	Not Connected(Mini USB) <Ra PLUG ID(Micro USB)
5	GND	Black
Shell	Shield	Drain Wire

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Mini USB 10P

Contact Number	Signal Name	Description
1	MP3_R	Headphone Right
2	VCHG	Charger +
3	MP3_L	Headphone Left
4	D-	USB_DM
5	GND_FM	Audio Ground
6	D+	USB_DP
7	KCOL0	KCOL0
8	MIC	Headphone MIC +
9	VBAT	Battery +
10	GND	Ground

福大電子　产品使用注意事项

product use matters needing attention

1. 根据国内外有关出口的法规，出口被限制产品时，请遵守该法规，取得必要的批准和办理必要的手续。**请不要将该产品用于军事用途或恐怖等反社会活动的目的。**另外，也不要将该产品供给有可能最终以这些用途，目的使用的法人，团体及个人等。（According to the domestic and foreign relevant export regulations , When export is restricted , please abide by the laws and regulations, obtaining the necessary approval and to go through necessary procedures. Please don't take this product for military use or terrorist anti-social activities aim. In addition, nor will the product supply is likely to end up with these purposes, corporate purposes, groups and individuals.）
2. 该产品只要没有特殊指定用途，原本被设计制造用于一般电子设备、办公设备、信息/通讯设备、测试仪器、家用电器产品、音像设备等标准用途而设计、制造的产品。因此，**不得用于原子能控制机器，宇宙及航空器上与运行有关的机器等。在上述禁止使用用途以外，用于医疗机器，防盗器，防灾机器，海底用机器等需要高度安全性及信赖性的机器时，请与弊公司营业担当协商，或请确认整套系统是否合适，并在抗故障设计，保护电路，超长电路，误动防止设计，防止火蔓延设计等整套系统上采取安全措施。**（As long as the product has no special purposes. It was originally designed for the manufacture of electronic equipment, office equipment, information / communication equipment, testing instruments, household appliances, audio-visual equipment, standard use and design, manufacturing products. Therefore, don’t be used for atomic energy control machine, space and aircraft and operating the machine etc.. Beside, for medical equipment, burglar alarm, disaster prevention machine, the machine needs high security and reliability of the machine, please bear in consultation with our business, or verify that the system is appropriate, and in the design of protection circuit, fault resistance, long circuit, misoperation preventing design, adopting safety measures to prevent the spread of fire design in the whole system .）
3. 无论任何用途，如需用于高可靠性要求的设备时，建议在采用保护电路及冗长电路等措施，保护设备安全的同时，请顾客进行安全性测试。（Regardless of any use, if it used in equipment with high reliability requirements, please taking the action to protect circuit 、redundant circuit、and other measures . Protecting the safety of equipment at the same time, ask the customer for safety testing）
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