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1. Scope

This specification applies to unified polarity type DC jack (Type 1 ② 3 4) used in electronic equipment.

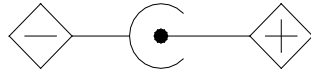
For DC input use.

2. Applicable Safety Standard /Applicable Standard

Applicable Safety Standard : Electrical Applicable and Material Control Law (Technical Requirement)

Applicable Standard : EIAJ RC-5320 “Plugs and jacks for coupling an external voltage power supply”
(Unified polarity type)

3. Polarity



4. Standard atmospheric conditions

Unless otherwise specified. The standard range of atmospheric condition for making measurements and tests are as follows :

Ambient temperature : 10°C to 40°C

Relative humidity : 30% to 85%

Air pressure : 86kPa to 106kPa

If there is any doubt about the results, measurements shall be made within the follow limits :

Ambient temperature : 20±2°C

Relative humidity : 60% to 70%

Air pressure : 86kPa to 106kPa

Storage Temperature Range : -35°C to 65°C

Operating Temperature Range: -25°C to 55°C

Operating temperature range is the range of ambient temperature for the component that can be operated continuously at rated voltage and rated current.

ISSUE	DATE	WRTN	CHKD	APVD	DESCRIPTIONS
	2006.09.26	劉望全	夏正雄	郭遠峰	
△x 2	2008.01.24	劉秀慧	夏正雄	郭遠峰	修正 Change Resistance to Soldering Heat Test、Solderability
△x 1	2012.08.29	劉秀慧	郭素玲	郭遠峰	Modify the item 8.1

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5. Construction

	Item	Conditions	Specification
1	Gap between conductive terminal	Gap between conductive terminal shall be kept, before the plug inserted, during the plug inserting, and after the plug inserted.	0.3mm MIN.

6. Mechanical characteristics

	Item	Conditions	Specification
1	Operating force	Measurement shall be made after insertion and withdrawal using standard plug gauge 3 times.	
		Insertion force	19.6N (2kgf MAX)
		Withdrawal force	1.96~ 14.7N (0.2~ 1.5kgf)
2	Terminal strength	A static load of 4.9N (500gf) shall be applied to the tip of the terminal for 10 seconds in any direction.	There shall be no damage to the terminal such as cracks, Looseness or play. Electrical and mechanical characteristics shall be satisfied.

7. Electrical characteristics

	Item	Conditions	Specification
1	Rating	Type 1	DC 3.15V 2A
		Type 2	DC 6.3V 2A
		Type 3	DC 10.5V 2A
		Type 4	DC 13.5V 2A
2	Contact resistance	1K Hz Measured at small current (100mA or less)	
		Make contacts	30mΩ MAX.
		Slide switch contacts	50mΩ MAX.
3	Insulation resistance	Apply a voltage of 500V DC for 1 min. to following portions after which measurement shall be made: Between body and conductor Between conductors not to be contact Between conductors not to be contact when plug is inserted	100MΩ MIN.
4	Dielectric strength	AC 500V (60Hz) For 1 min. Trip current : 2mA Between body and conductor Between conductors not to be contact Between conductors not to be contact when plug is inserted	Without damage such as insulation breakdown

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8. Endurance characteristics

Item	Conditions	Specification	
1 Resistance to Soldering Heat Test ⚠	Wave soldering Process		
	Profile Feature	Pb-Free Assembly	
		Topside PCB Padside PCB	
	Preheat -Temperature min -Temperature max -Time (ts min to max)	120°C (Ts1 max)	110°C (Ts min) 150°C (Ts max) 75 sec
	Peak/Classification Temperature	165°C (Tp1)	260°C ±5°C (Tp)
	Time within 5°C of actual Temperature (tp)		10 sec (within 2 times every time 2-3 sec)
	Time 25°C to Peak temperature		3 minutes max
Wave Soldering Temperature Profile are as below ⚠ About the plastic properties , Please refer to the data sheet of plastic.			
<p style="text-align: center;"> ----- Topside PCB ————— Padside PCB </p>			
Soldering Iron Test Temperature of soldering Iron : 380±10°C Soldering time : 3±1 seconds		Same as Wave soldering Process	
Insertion force		19.6N (2kgf MAX)	
Withdrawal force		1.96~14.7N (0.2~1.5kgf)	

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Item	Conditions		Specification		
2	Solderability △	Temperature of solder : 250°C ±5°C Time of dip : 3 ±0.5 seconds Length of dip : 2 ±0.5mm (from top of terminal)		The soldered area shall be covered a minimum of 90% of the surface being immersed.	
3	Low temperature test	The jack shall be stored at a temperature of -40°C±2°C for 96 hours. And then it shall be subjected to the controlled recovery conditions for 30 minute after which measurement shall be made.		There shall be no damage on appearance. Mechanical and electrical characteristics shall be satisfied.	
4	High temperature test	The jack shall be stored at a temperature of 70°C±2°C for 96 hours. And then it shall be subjected to the controlled recovery conditions for 30 minute after which measurement shall be made.		There shall be no damage on appearance. Mechanical and electrical characteristics shall be satisfied.	
5	Humidity test	Temperature : 40°C±2°C Relative humidity : 90% ~95% for 96 hours after testing jack shall be left alone for 30 minute in a room ambient.		There shall be no damage on appearance. Mechanical and electrical characteristics shall be satisfied.	
		Insulation resistance		50MΩ MIN.	
6	Operating endurance	Without load : Insertion and withdrawal shall be made with the mating plugs and jacks for 5000 cycles at a speed of 20~30 cycles/min.			
		Insertion force		19.6N (2kgf) MAX	
		Withdrawal force		1.96~14.7N (0.2~1.5kgf)	
		Contact resistance	Make contacts		60mΩ MAX.
Slide switch contacts			100mΩ MAX.		

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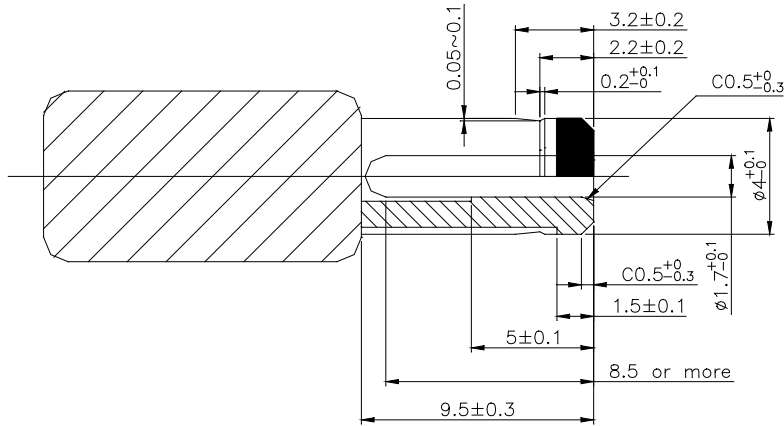
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9. Mating plug

TYPE 2
$3.15V < RV \leq 6.3V$
RV=Rated voltage

Figure of mating plug



UNIT : mm