KUNMING
ELECTRONICS CO., LTD, ***SPECIFICATION***

TITLE	**SPC. NO.**	**PAGE：** 1 OF 7
DC JACK	KM02006	**DATE：** 2003.12.23

1. Scope

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

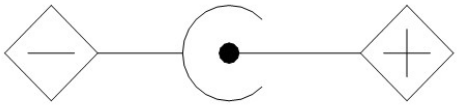
For DC input use.

Applicable Safety Standard／Applicable Standard

Applicable Safety Standard：Electrical Applicable and Material Control Law（TechnicalRequirement）

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：5℃ to 35℃

Relative humidity ：45% 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℃

Relative humidity ：60% to 70%

Air pressure ：86kPa to 106kPa

Storage Temperature Range ： -20℃ to 80℃

Operating Temperature Range：-10℃ to 75℃

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
	2003.12.23	陳樹民	龔雲輝	龔雲輝	
⚠1x2	2008.01.24	劉秀慧	夏正雄	郭遠峰	Solderability 245℃➔250℃
⚠2x2	2008.12.08	黃健瑋	夏正雄	夏正雄	Add statement of shelf life and test group
⚠3x1	2012.08.14	江浩霆	郭素玲	郭素玲	Modify the item 7.2
⚠4x1	2017.07.25	李阮龍	郭遠峰	郭遠峰	Modify the item 9

5.Mechanical characteristics

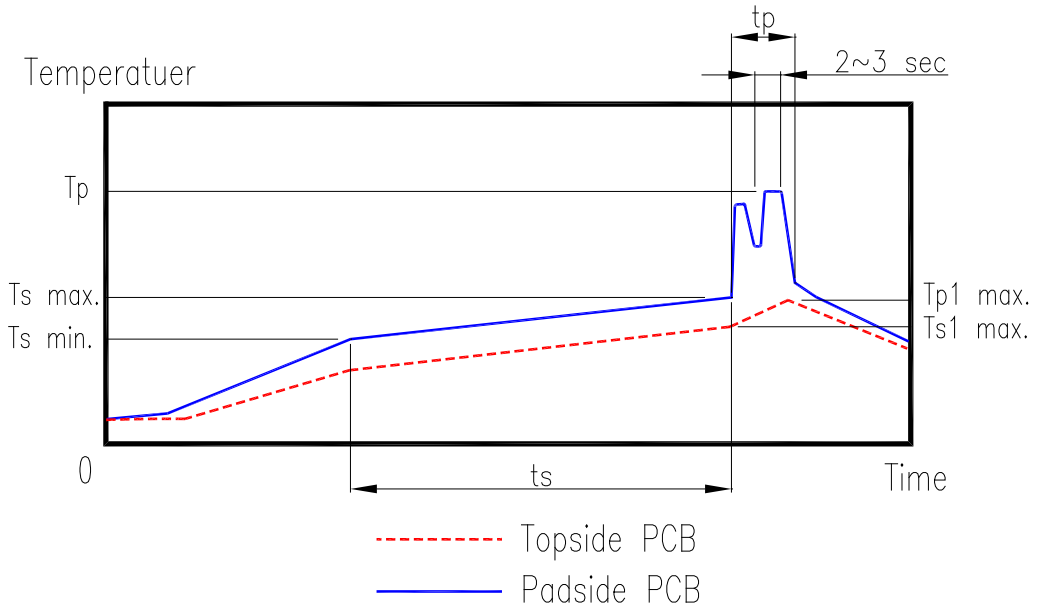
	Item	Condition	Specifications
1	Operating force	Measurement shall be made after insertion and withdrawal using standard plug gauge 3 times.	
		Insertion force	19.6N（2kgf MAX）
		Withdrawal force	2.95～14.7 N（0.3～1.5kgf）
2	Terminal strength	A static load of 4.9N（500gf）shall be applied to the tip of the terminal for 10 sec in any direction.	There shall be no damage to the terminal such as cracks, looseness or play. Electrical and mechanical characteristics shall be satisfied.

6.Electrical characteristics

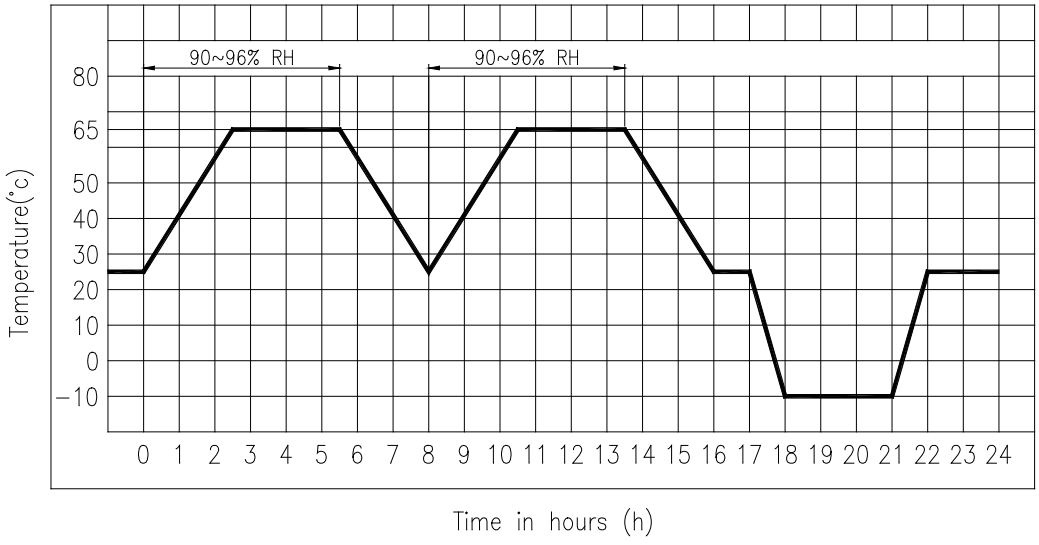
	Item	Condition	Specifications
1	Rated voltage/ Rated current	Type 1	~~DC 3.15V 2A~~
		Type 2	DC 6.3V 2A
		Type 3	~~DC 10.5V 2A~~
		Type 4	~~DC 13.5V 2A~~
2	Contact resistance	Measurement shall be made at with small current 1000 Hz（100mA MAX.）	30 mΩ MAX.
3	Insulation resistance	Apply a voltage of 500V 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 minute. 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

7. Endurance characteristics

	Item	Condition	Specifications
1	Solderability	Temperature of solder：⚠250℃±5℃ 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.

<table>
<tr><th></th><th>Item</th><th colspan="3">Condition</th><th>Specifications</th></tr>
<tr><td rowspan="7">2</td><td rowspan="7">Resistance to Soldering Heat Test
⚠1</td><td colspan="4">Wave soldering Process</td></tr>
<tr><td rowspan="2">Profile Feature</td><td colspan="2">Pb-Free Assembly</td><td rowspan="5">Electrical and mechanical characteristics shall be satisfied,
and not show remarkable failure.</td></tr>
<tr><td>Topside PCB</td><td>Padside PCB</td></tr>
<tr><td>Preheat
-Temperature min
-Temperature max
-Time (t_s min to max)</td><td>120℃
(T_{sl} max)</td><td>110℃
(T_s min)
150℃
(T_s max)
75 sec</td></tr>
<tr><td>Peak/Classification Temperature</td><td>165℃
(T_{pl} max)</td><td>260℃ ±5℃
(T_p)</td></tr>
<tr><td>Time within 5℃ of actual Temperature (t_p)</td><td></td><td>10 sec (within 2 times every time 2-3 sec)</td></tr>
<tr><td>Time 25℃ to Peak temperature</td><td></td><td>3 minutes max</td></tr>
<tr><td colspan="4">Wave Soldering Temperature Profile are as below
⚠3About the plastic properties , Please refer to the data sheet of plastic.
 
</td></tr>
<tr><td colspan="3">Soldering Iron Test
Temperature of soldering Iron：380±10℃
Soldering time：3±1 seconds</td><td>Same as Wave soldering Process</td></tr>
<tr><td colspan="3">Insertion force</td><td>19.6N（2kgf MAX）</td></tr>
<tr><td colspan="3">Withdrawal force</td><td>2.95～14.7 N（0.3～1.5kgf）</td></tr>
</table>

	Item	Condition	Specifications
3	Low temperature	The jack shall be stored at a temperature of －25℃±3℃ for 2 hours. And then it shall be subjected to the controlled recovery conditions for 1 hour after which measurement shall be made.	Mechanical and electrical characteristics shall be satisfied. There shall be no damage on appearance.
4	High temperature	The jack shall be stored at a temperature of 85℃±2℃ for 96 hours. And then it shall be subjected to the controlled recovery conditions for 1 hour after which measurement shall be made.	Mechanical and electrical characteristics shall be satisfied. There shall be no damage on appearance.
5	Composite temperature / humidity cyclic test	The jack shall be subject to 10 continuous cycles each as shown in figure below. Then the jack shall be stored at standard atmospheric conditions for 24 hours recovery after which measurement shall be made. ※Temperature shall be reduced from 25℃ to－10℃ within 30 min. ※Humidity uncontrolled at a temperature less than 25℃	Mechanical and electrical characteristics shall be satisfied. There shall be no damage on appearance.



	Item	Condition	Specifications
6	Sulfuration	The terminals of miniature jack shall be dipped into a dilute solution of 3% potassium sulfide for 1 minute.	60mΩ MAX.
7	Operating endurance	Without load： Insertion and withdrawal shall be made with the mating plugs and jacks for 5000 cycles at a speed of 10~20 cycles/min. Load： At rating condition（non-inductive load） Insertion and withdrawal shall be made 1000 cycles at a speed of 10~20 cycles/min.	
		Insertion force	19.6N（2kgf）MAX.
		Withdrawal force	1.96～14.7 N（0.2～1.5kgf）
		Contact resistance	60mΩ MAX.

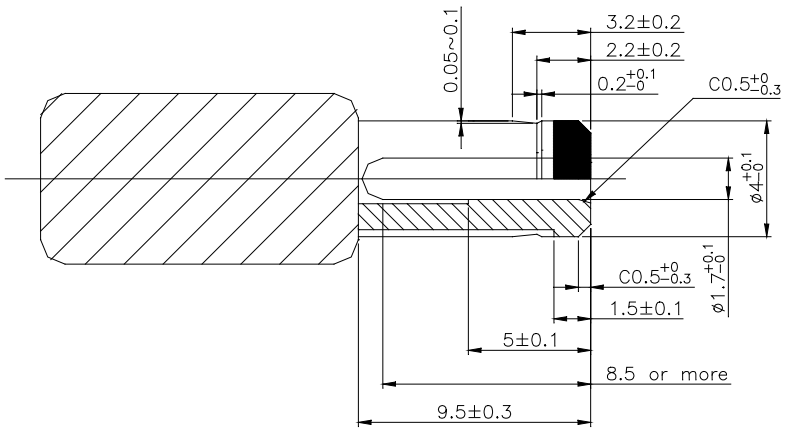
△8. Soldering condition shelf life about 6 months depend on storage condition of humidity, temperature and others factors.

9. ④Mating plug

TYPE 2
3.15V< RV≦ 6.3V

RV=Rated voltage

Figure of mating plug



UNIT : mm

10. ⚠Endurance test sequence：

Test Item / Test sequence / Test group		A	B	C	D	E	F	G	H
5.1	Operating force	1,6		1,6	1,6	1,6	1		1
5.2	Terminal strength	5							
6.2	Contact resistance	2,7		2,7	2,7	2,7	2,6	1	2
6.3	Insulation resistance	3,8		3,8	3,8	3,8	3,7		3,6
6.4	Dielectric strength	4,9		4,9	4,9	4,9	4,8		4,7
7.1	Solderability		1						
7.2	Resistance to Soldering Heat Test			5					
7.3	Low temperature				5				
7.4	High temperature					5			
7.5	Composite temperature/ humidity cyclic test						5		
7.6	Sulfuration							2	
7.7	Operating endurance								5

Test sample quality：2 pcs min. / group