

TITLE DC POWER JACK	SPC. NO. KMDC062AF03	PAGE : 1 OF 4 DATE : 2019.02.14
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1. Application:

This specification covers the requirements for DC POWER JACK.

2. Rated:

- 2.1. Practical temperature range: -25°C to +70°C
Humidity range: 85% RH.MAX.
- 2.2. Preservation temperature range: -25°C to +85°C
Humidity range: 85% RH.MAX.
- 2.3. Rated voltage and current: 12V DC , 5A

3. Construction:

3.1. Appearance:

Must be no curve,crack,dirty,corrosion,discoloration and significant discoloration.

3.2. Outline and dimension

Outline and dimension of the jack shown be as attached part drawing.

4. Electrical efficiency:

Item	Property	Test condition	Performance
4-1	Withstand voltage	The Jack shall be withstanded 500V(AC50/60Hz RMS)between mutually insulated pin contacts for one minute.	Without breakdown.
4-2	Insulation resistance	Using a 500 volts DC insulation resistance meter between mutually insulated terminals.	100 MΩ or more
4-3	Contact resistance	Between terminals of the jack to be made a closed circuit.	Less than 50 mΩ

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	2019.02.14	王安盛	龔 雪	張啟濤	

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5. Mechanical efficiency

Item	Property	Test condition	Performance
5-1	Insertion and Extraction force	Measures with a load cell or equivalent. The matching plug shall be inserted into the jack and extracted from the jack slowly. Test the speed: Descend every minute 25 millimeter.	3N~30N
5-2	Terminal strength	Every terminal shall be capable of withstand a force of 5N for 10 seconds.	Without losing and breakdown, but deformation of terminal is accepted.

6. Life efficiency

Item	Property	Test condition	Performance
6-1	Life test	The life test shall consist of 5000 cycles of insertion and extraction with gauge plug covered with a thin coat of grease in order to prevent from hearing and wearing ,at a rate of 20 to 30 cycles per minutes.	At the conclusion of the test, The jack shall be comply with paragraphs 4-1 and 5. Insulation resistance: 100M Ω more Contact resistance: less than 50 m Ω

7. Solderability

Item	Property	Test condition	Performance
7-1	Resistance to soldering heat test	The jack terminal shall be dipped solder under the condition as specified below: Temperature of solder:260 \pm 5 $^{\circ}$ C Dip time:10 \pm 1 seconds.	The jack shall be comply with paragraphs 4 and 5, and not show.
7-2	Soldering test	Temperature of solder:240 \pm 5 $^{\circ}$ C Time of dip:3 \pm 0.5 seconds. Length of dip:2.5mm (from top of terminal).	Areas of soldering shall be capable of 95% or more of dip terminal area.

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8. Environmental

Item	Property	Test condition	Performance
8-1	Cold test	The jack shall be subjected to temperature of $-25\pm 2^{\circ}\text{C}$ for and period for 96 hours , then shall be allowed to remain in room ambient conditions for 30 minutes.	At the conclusion of the test, The jack shall be comply with paragraphs 4 and 5.
8-2	Heat test	The jack shall be subjected to temperature of $70\pm 2^{\circ}\text{C}$ for and period for 96 hours , then shall be allowed to remain in room ambient conditions for 30 minutes.	At the conclusion of the test, The jack shall be comply with paragraphs 4 and 5.
8-3	Temperature cycle test	<p>The jack be subjected to conditions 5cycle as shown in below, and the shall returned and allowed to remain in ambient condition for 30 minutes.</p> <p>The graph shows Temperature (Temp) on the vertical axis and Time on the horizontal axis. The temperature levels are $+70\pm 2^{\circ}\text{C}$, Ordinary Temp, and $-25\pm 2^{\circ}\text{C}$. The cycle duration is 6 hours, consisting of 2h at $-25\pm 2^{\circ}\text{C}$, 1h ramp up, 2h at $+70\pm 2^{\circ}\text{C}$, and 1h ramp down.</p>	At the conclusion of the test, The jack shall be comply with paragraphs 4 and 5.
8-4	Humidity test	The jack be subjected to temperature of $40\pm 2^{\circ}\text{C}$ and relative humidity of 90% to 95% for a period of 96 hours. Upon completion of the exposure, dew drops shall be blown out and removed from the jack, after which the jack shall conditioned at room ambient conditions for 30 minutes.	<p>At the conclusion of the test, The jack shall be comply with paragraphs 4 and 5.</p> <p>Insulation resistance: 50 MΩ more</p> <p>Contact resistance: less than 30 mΩ</p>

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8-5	Salt mist test	Test bath:The temperature shall be $35\pm 2^{\circ}\text{C}$ in the ambient of the specimen during the test.Spray apparatus:The apparatus shall be capable of producing fine dense mist uniformly. Salt water:The concentration of the salt water shall be adjusted at $5\pm 1\%$ weight ratio at $35\pm 2^{\circ}\text{C}$. Testing time: $24\pm 2\text{h}$.	Item 4 and Item 5 shall be assured. Insulation resistance: 10 M Ω , MIN. Contact resistance: 50 m Ω , MAX.
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9. Test condition

Unless otherwise specified herein , all measurements and tests shall be made at temperature of 5°C to 35°C and relative humidity of 45% to 85%.

10. Amendment

When the amendment of this specification comes into necessity , it shall made by the mutual consultation and agreement between manufacture and customer.