

TEST SUMMARY

1.0 PURPOSE:

This test is provided you the result of evaluation of the AC POWER JACK

2.0 CONCLUSION:

The AC POWER JACK passed all applicable testing in accordance with the product specification.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS:

QQ-B-750 Bronze, phosphor; bar, plate, rod, sheet, strip, flat, wire, and structural and special shaped sections
QQ-N-290 Plating, nickel (electrodeposited)
MIL-STD-202F Test methods for electrical component parts
MIL-STD-1344A Test methods for electrical connectors
MIL-C-45662 Equipment calibration
UL-STD-94 Tests for flammability of plastic material for parts in devices and appliances.

4.0 SPECIMEN:

4.1 Connector:

P/N: SWDTS-0043 The specific part number in each test group is listed preceding the test results for each test group.

4.2 Mating part:

AC Plug.

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6.0 TEST METHODS AND REQUIREMENT:

5.1 Visual and Mechanical Examination

The connector-under-test (hereinafter referred to as “UUT” or samples) shall be examined, prior to or after certain testing, to verify that the design, construction, material, finish and workmanship meet the requirements of the applicable specifications and drawings in appendix.

5.2 Contact Resistance

Contact resistance was measured with a computer-controlled data acquisition system. The four wire” test method described in MIL-STD-1344A, Method 3002.1 was employed, as detailed in Figure I. The contact resistance shall be measured from the solder tail to the shunt, or measured from the plug to contact.
1K Hz measured at small current (1A or less)

Requirements:

From Contact to shunt- shall be not exceed 30 milliohm initial

From plug to contact- shall be not exceed 50 milliohm initial

5.3 Insulation Resistance

The samples were tested in accordance with MIL-STD-1344A, Method 3003. The resistance was measured after an electrification time of one minute between mutual insulated contacts.

Requirements: The insulation resistance shall not be less than 100 Megohms at 500 VDC.

5.4 Dielectric Withstanding Voltage:

The samples were tested as specified in MIL-STD-1344A, Method 3001.1, Test condition I at 2,000 VAC/RMS (50 to 60 Hz) between terminal to terminal & 4,000 VAC/RMS (50 to 60 Hz) between body to terminal for one minute. Trip current 2 mA. The voltage was applied between the adjacent contacts or terminals.

Requirements: The UUTs shall withstand a test potential of 500 VAC/RMS for one minute without breakdown or any current leakage greater than 1 milliamperes between adjacent contacts or terminals.

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5.5 Insertion Force/ Withdrawal Force

The samples were subjected to a single mating and unmating cycle, with a tensile/ compression tester, in accordance with ANSI/ EIA 364-13. Measure force to insertion and withdrawal

Requirement: (a) Insertion force: 3 Kgs force maximum
(b) Withdrawal force: 300 grams force minimum

5.6 Durability

The durability test shall consist of 500 mating cycles of insertion and extraction with the mated plug or the gauge plug at a rate 20 cycles (typical) per minute, no load condition, with or without lubricant which should be specified the detail requirements.

Requirements: After 500 cycles of mating and unmating
Insertion force: 3 Kg Max.
Withstanding force: 0.3~3 Kg
Between plug and contact of contact resistance: 100 milliohms max.
Each closed contact: 60 milliohms max.

5.7 Humidity:

The test is in accordance with MIL-STD-202, Method 103, the jack shall be placed in the testing chamber at the condition of $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ and the relative humidity of 90% to 95% RH for 96 hours, the dew drops on the surface of jack shall be blown off and removed from the surface of jack and then placed in ambient temperature for more than 30 minutes, recovery period.

Requirements: (a) The insulation resistance shall not be less than 50 Megaohms.
(b) The withstand voltage of 500 VAC/RMS for one minute without breakdown or any current leakage greater than 1 milliamperes between adjacent contacts or terminals

5.8 Cold Test

The test is in accordance with MIL-STD-202, Method 107, The jack shall be stored at a temperature of $-40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 96 hours. And then it shall be subjected to the controlled recovery condition for 0.5 hours after which measurement shall be

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made.

Requirements: Electrical and Mechanical characteristics shall be satisfied. There shall be not show remarkable failure.

6.9 Dry Heat Test

The test is in accordance with MIL-STD-202, Method 107, The jack shall be stored at a temperature of $70^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 96 hours. And then it shall be subjected to the controlled recovery condition for 0.5 hours after which measurement shall be made.

Requirements:Electrical and Mechanical characteristics shall be satisfied. There shall be not show remarkable failure.

5.10 Solderability

The test is in accordance with MIL-STD-202F, Method 208D, the terminal of jack tested shall be dipped into soldering flux or equivalent for a period of 5 to 10 seconds and then immersed into molten solder , Sn, at a controlled temperature of $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 3 ± 0.5 seconds after aging. The coverage should more than 95% by the microscope of more than 10x.

Warning:

AC POWER jack shall be dipped, warning to inferior contact by flux and transform mold.

Resistance to flux: It shall be prevention between PCB and housing

Transform: It must not add direct heat to AC POWER jack

Temperature of solder: 250°C Max.

Preheat temperature: 90°C Max.

Preheat time: 2 minute Max.

5.11 Rating:

AC 250V 2.5A

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6.0 TEST EQUIPMENT:

NAME	MODEL
MICROSCOPE	CASTOR
MEASUREMENT	FS-180
LIFE TESTER FOR CONNECTOR	SE5700
OVEN	YAMATO ARY-626-SPW-8Z
T&H CHAMBER	GTH-150-40-1P-U
WITHSTANDING OVLTAGE TESTER	LH-150ITA
HIGH RESISTANCE METER	LH-150ITA
MINI OHMS METER	ABM-3254
FORCE GAUGE	HF-103461
THERMOMETER	308 TYPE K

7.0 AMBIENT TEMPERATURE AND HUMIDITY:

19 to 23 degrees C, 54 to 58 RH%.

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