


Revision Control

Written	T.Y.LI	Date	29-3-2019	File Number	Y-HWP-0102HS-PA10T
Approved		Date	29-3-2019	Rev.	1.0

Data Specification

Item Number : **HWP-0102HS series**
Description : **High Current Waterproof/Dustproof DC Power Socket**

A. General Scope

This specification covers the requirement for the direct circuit power supply for all audio systems and similar equipments.

B. Mating Plug

The Mating plug shall be in 5.5mm diameter.

C. Components and Materials

Plastic : PA10T
Terminal 1 : Brass, Gold Flash
Terminal 2 : Copper Alloy, Gold Flash
Terminal 3 : Brass, Gold Flash
Shield : Brass, Nickel Plated

D. Electrical Requirements

Dielectric Strength

The socket shall withstand without failure, a potential of 500 volts r.m.s. 50/60Hz and 0.5mA applied between mutually insulated metal parts for one minute.

Insulation Resistance

Insulation resistance between insulated metal parts shall be 100 Megohm or more at initial and 50 Megohm or more after cold test, hot test, and humidity test when measured with a 500 volts D. C. insulation resistance meter.

Contact Resistance

Contact resistance shall be less than 50 Milliohms at initial and 100 Milliohms after life test between a terminal of the socket and that of the mating plug; less than 30 Milliohms at initial and 60 Milliohms after life test between terminal of the socket in a closed circuited, when measured at a current of less than 100 Milliampere 1 KHz. The Mating plug use shall be cleaned and free from oxidation film of the surface.

Rating

5A/16V DC Max.

E. Mechanical Requirement

Insertion and Withdrawal Force

The insertion and withdrawal force shall be 0.3 – 3Kgs at initial and 0.2 – 2Kgs after life test with the gauge plug.

F. Soldering Test

Solderability Test

a) Test Condition

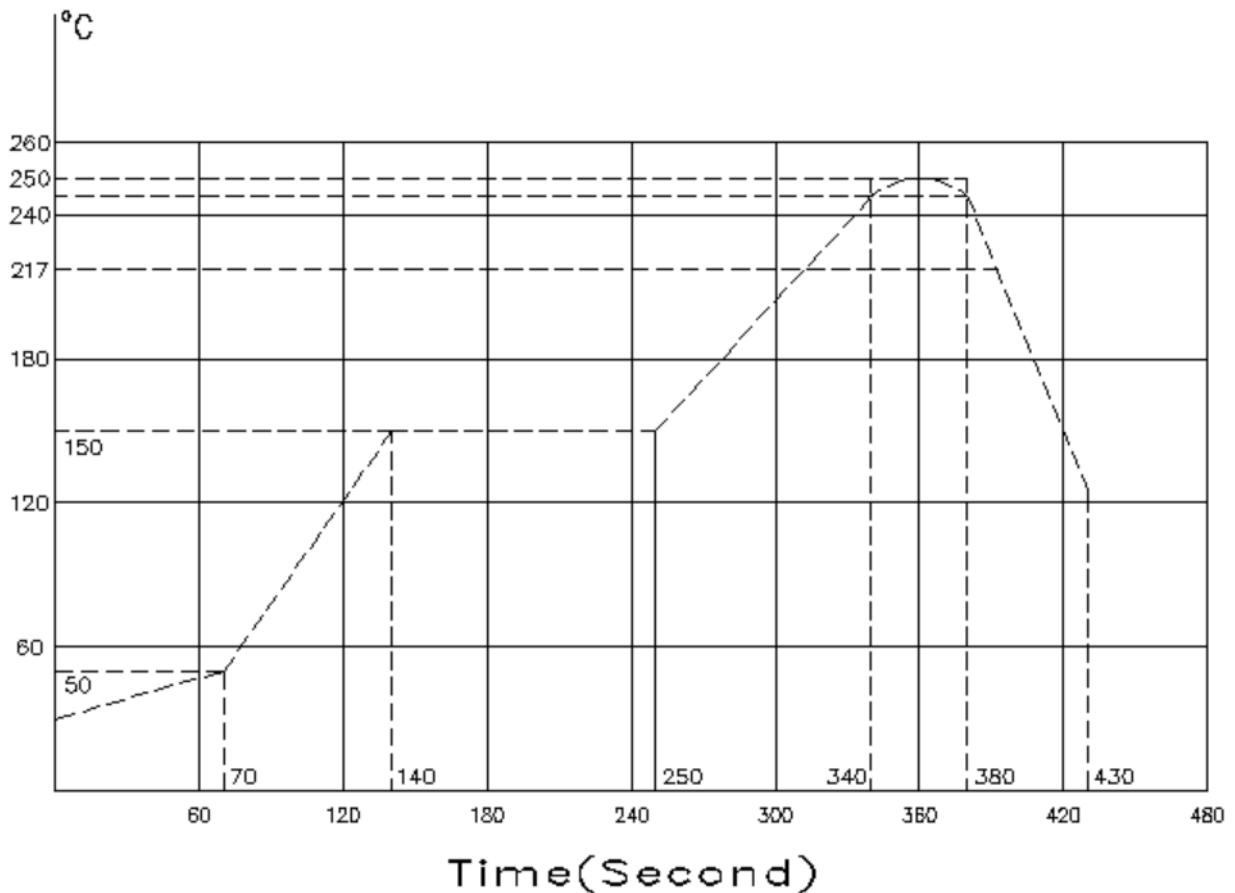
Solder Time : 2 Sec
Solder Temperature : $255^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Flux : Neutral flux

b) Requirement : 95% coverage of solder on lead

Resistance to Soldering Heat Test

Reflow Soldering (For Reference Only)

The socket shall be placed in a reflow solder furnace with the temperature starting from the normal room temperature at around 25°C and up to $250^{\circ}\text{C} \pm 5^{\circ}\text{C}$ over 360 second. The details are shown as the following flow chart.



G. Endurance

Life Test

The Life Test shall be consisted of 5,000 cycles of insertion and withdrawal with the mating plug covered with a thin coat of grease in order to prevent from heating of wearing, at a rate of 24 cycles per minutes under no or rated load.

H. Environmental

Heat Test

The socket shall be placed in the testing chamber at a temperature of $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and the relative humidity of less than 50% RH for 96 hours and then placed in ambient temperature for more than 30 minutes recovery period. The relative test before and after test should be complied with Insulation Resistance shown on Paragraph (D.1~D.3).

Cold Test

The socket shall be placed in the testing chamber at a temperature of $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 96 hours and then placed in ambient temperature for more than 30 minutes recovery period. The relative test before and after test should be complied with Insulation Resistance shown on Paragraph (D.1~D.3).

Humidity Test

The socket shall be placed in the testing chamber at a temperature 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 socket shall be blown off and removed from the surface of the socket and then placed in ambient temperature for more than 30 minutes recovery period. The relative test before and after this test should be complied with Insulation Resistance shown on Paragraph (D.1~D.3).

I. Measuring Condition

All measurements and test shall be made at a temperature 10°C to 35°C with a relative humidity of 45% RH to 85% RH under the standard atmospheric pressure unless the specified conditions.

J. Operating Temperature

-25°C to $+85^{\circ}\text{C}$

K. Warranty period/Storage condition/Application condition

Warranty period	:	6 months after shipment
Storage condition	:	0°C to 40°C , less than 80%RH without direct rays
Application condition	:	After removal of vacuum packaging, use within 72 hours at humidity level less than 60% RH and temperature less than 30°C

L. Waterproof/Dustproof

The jack shall be stored for 30 minutes in 1m of water. And totally protected against dust (Refer to JIS standard IP67.).The socket need to match the O-Ring, O-Ring need to exert pressure to achieve a certain amount of interference.

F

E

D

C

B

A

RoHS
Compliant

ZONE	SYMBOL	REVISION	APPROVAL	DATE

1

1

2

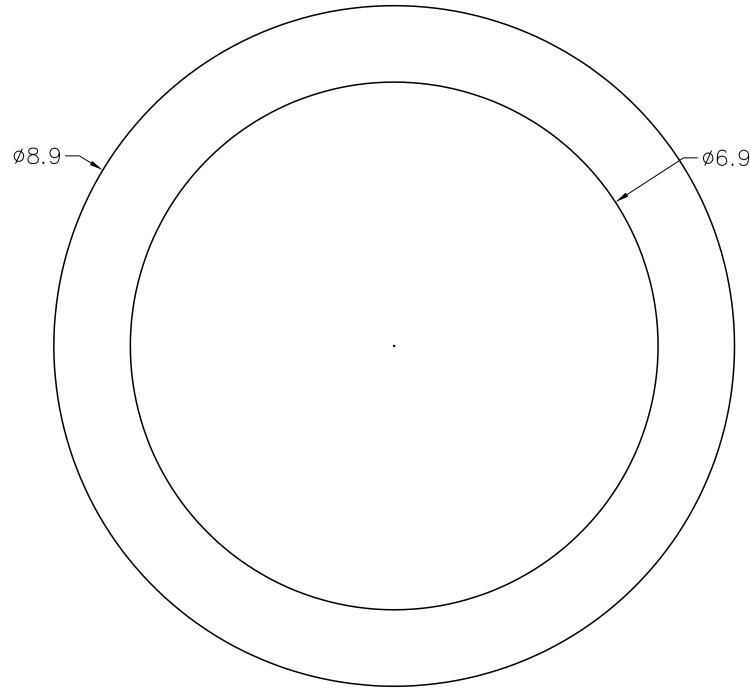
2

3

3

4

4



MATERIAL
M1.MATERIAL: Silicone,94V-0
M2.HARDNESS: 70°

淮洋有限公司 HUAI YANG CO., LTD. www.hy1688.com.tw

DESIGN	H.L.TAN	DATE	18-12-2018	SCALE	10:1
DRAWING	H.Q.ZHOU	DATE	18-12-2018	MATERIAL	
CHECK	T.Y.LI	DATE	18-12-2018	DWG. NO.	DZ\O-RING-4/1.0
APPROVAL	<i>[Signature]</i>	DATE	11-4-2019	SHEET	

PART NAME	O-RING	TOLERANCE UNLESS	0.0±0.2	UNIT:	
PART NO.	O-RING-4	OTHERWISE SPECIFIED:	0.00±0.1 0.000±0.05	mm	

F

E

D

C

B

A