| **REV.** | **Description** | | | | | | **Date** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S00 | ISSUE SPEC | | | | | | 10/28/2019 | |
| S01 | 102A-19B208  CHANGE ITEM 3(7);ADD ITEM 2.5 | | | | | | 11/25/2019 | |
| S02 | 102A-215113  ADD ADP-15WH AB | | | | | | 05/19/2021 | |
| S03 | 102A-21A039 ADD ADP-15WH ASA  102A-21A066 ADD ADP-15WH ASB | | | | | | 10/12/2021 | |
| S04 | 102A-223018  ADD ADP-15WH AS | | | | | | 03/08/2022 | |
| S05 | 102A-228114  ADD ADP-15WH ASC; CHANGE ITEM 1.2(7)&(8)&(9) | | | | | | 08/16/2022 | |
| S06 | 102A-22A146  ADD ADP-15WH ASD | | | | | | 10/24/2022 | |
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|  | | | **台達電子工業股份有限公司**  **DELTA ELECTRONICS, INC.** | | | DESCRIPTION :  **電氣規格 (Electrical Specification)** | | |
| **THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA**  **ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE**  **BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES**  **WITHOUT PERMISSION.** | | | | | | MODEL NO. :  ADP-15WH SERIES | | |
| Date | | Drawn | | Design (EE) | Design (ME) | DOCUMENT NAME. :  ES-15WH SERIES | | REV. |
| 10/24/2022 | | 呂翠娥 | | 王竹君 | 李昱緯 | S06 |

FRAME NAME:DF-PSLA4V-2R01.DOC SHEET 2 OF 12

MODEL LIST:

ADP-15WH AA/AB/AAA/AAB/AAC/AS/ASA/ASB/ASC/ASD

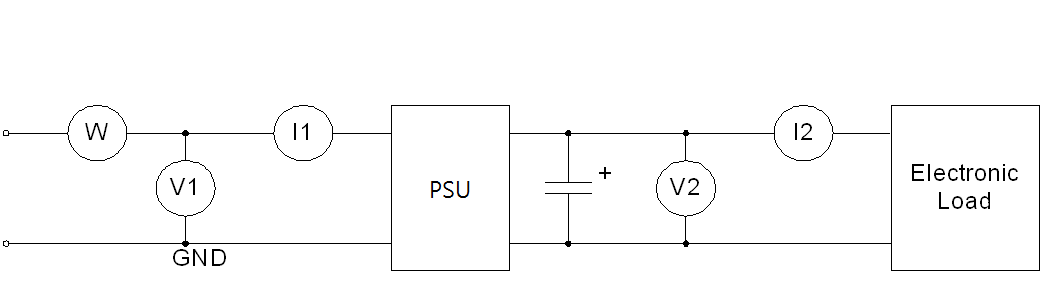
1. Specifications

1.1 Environmental Characteristics

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|  | Item | Conditions | Specification |
| 1 | Temperature | Operating:  The Adapter is capable to operate from 0 to 40℃. | 0 to 40℃ |
| 2 | Non- Operating:  The Adapter is capable to be stored from –20 to 60℃. | –20 to 60℃ |
| 3 | Humidity | Operating:  The Adapter is capable to operate from 10 to 90% RH. | 10 to 90% RH |
| 4 | Non- Operating:  The Adapter is capable to be stored from 10 to 90% RH ( non-condensing ) | 10 to 90% RH |

1.2 Electrical Characteristics

Applied 10uF/10V & 104pF capacitor across output connector terminals.



|  |  |  |  |
| --- | --- | --- | --- |
|  | Item | Conditions | Specification |
| 1 | Rated input voltage |  | 100 ~ 240 Va.c. |
| 2 | Rated frequency |  | 50Hz or 60Hz |
| 3 | Input Voltage Range |  | 90 ~ 276 Vac |
| 4 | Frequency Range |  | 47Hz ~ 63Hz |
| 5 | Rated load output |  | 5.1V / 2.8A |
| 6 | Max. load current | Input voltage: 90Vac~276Vac , Output current:  2.8A ~3.8A, 10 seconds 2.8A / 1second 3.8A | 3.8A d.c. |
| 7 | No load output voltage | Input voltage: 90Vac~276Vac , Output current: 0A | 5.4V ~ 5.5V |
| 8 | Output Voltage | Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load) | 5.1V ~ 5.5V |
| 9 | Peak load output voltage | Input voltage: 90Vac~276Vac , Output current: 2.8A ~3.8A,  10 seconds 2.8A / 1second 3.8A | 5.0V ~ 5.5V |
| 10 | Ripple & Noise voltage | Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load) | ≦ 100mVp-p |
| 11 | No load input current | Input voltage: 90Vac/100Vac , Output current: 0A  Input voltage: 240Vac/276Vac , Output current: 0A | ≦ 10mA  ≦ 20mA |
| 12 | Rated load input current | Input voltage: 90Vac, Output current: 2.8A (Rated load)  Input voltage: 100Vac, Output current: 2.8A (Rated load)  Input voltage: 240Vac, Output current: 2.8A (Rated load)  Input voltage: 276Vac, Output current: 2.8A (Rated load) | ≦ 400mA  ≦ 350mA  ≦ 200mA  ≦ 190mA |
| 13 | No load power consumption | Input voltage: 115Vac/230Vac , Output current: 0A | ≦ 75mW |
| 14 | Rated load power consumption | Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load) | ≦ 20W |
| 15 | Short circuit protection | Input voltage: 90Vac~276Vac , Protection mode: Auto recovery |  |
| 16 | Over current protection | Input voltage: 90Vac~276Vac , Protection mode: Auto recovery | 3.9A ~7.8A |
| 17 | Over voltage protection | Input voltage: 90Vac~276Vac , Output current: 0~2.8A , Protection mode: Latch off | ≦ 8V |
| 18 | Rated load efficiency | Input voltage: 90Vac~276Vac , Output current:2.8A, | ≧75% |
| 19 | Average efficiency | Input voltage:115Vac/60Hz ,230Vac/50Hz,  average efficiency at 25%, 50%, 75%, and full load. | ≧79.3% |
| 20 | Surface temperature rise | Output current: 2.8A (Full load)  Output current: 2.0A (70% full load) | Δt=35℃  Δt=25℃ |
| 21 | Electromagnetic Interference (EMI) | Conducted Emissions: Conform to the “class B” requirement of CISPR 22(EN55022) | <-6dB, after burn in 5minute. |
| Radiated Emissions: Conform to the “class B” requirement of CISPR 22(EN55022) | <-6dB |
| 22 | Leakage Current | Input voltage: 240 Vac, 60Hz. | < 100uA |
| 23 | Insulation resistance | Apply 500V dc for 1min, after which measurement shall be made between the input Plug (or power supply cord) and the dc plug or case | ≧100MΩ |
| 24 | Dielectric strength | Apply 3.64kV ac for 1min (verification), 3.64kV ac for 3sec. (products line), Between input Plug and DC plug. | < 5mA (cut off current) |
| 25 | Surge immunity | Input voltage ± 1 KV ( L-N)  Input voltage ± 2 KV ( L-GND and N-GND) | No damage |
| 26 | ESD test | After applied ±10kV air discharge and Adapter shall be normally operated. Total 5 shots by an interval of 3 seconds between each shot.  After applied ±12kV air discharge and Adapter is no part breakdown. Total 5 shots by an interval of 3 seconds between each shot. | 10kV no function error.  12kV no damage. |
| 27 | AC noise | Rating input, Rating load  Noise voltage:600V(no function error)  1000V(no damage) |  |

1.3 Safety info:

Max. Operating Altitude:2000M

  Safety application

PSE, UCS, CB, CE, KTL-EMC, EESS, BSMI, CCC, Erp Lot 7 4rd.LPS.

**2. Mechanical Dimension**

2.1 Outline Dimension: **76.0\*46.0\*22.0** mm, Color: **Black**

2.2 AC Inlet type: Socket **C8** type

2.3 DC Cable :

TYPE: **UL 1571 20AWG**

LENGTH **: 1000** mm

2.4 DC Connector Dimension:

OD= **4.0**mm

ID= **1.7** mm

LENGTH= **9.5** mm

2.5 DC jack: 4017J-1M00:

**3. Mechanical characteristics**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Item** | | **Conditions** | | | | | | **Specification** | |  |
| 1 | Mechanical strength of case | | Load 100N by using define fixture (ϕ12 plastic head) on case surface | | | | | | Electrical and mechanical function should meet spec. | |  |
| 2 | AC inlet strength | | 1.150N push in by suitable plug  2.100N ; 5000times push in & pull out by suitable plug  3.4 direction 70N load on suitable plug (plug in) | | | | | | Without damage in appearance on solder | |  |
| 3 | Cord flexibility test | |  | Load (N) | Angle(θ) | Short diameter direction | Arbitrary direction  (cycle) | Cycles in every minute | Disconnection rate of the wire shall be 30% or less.  Without damage to the insulations, etc. | |  |
| Case-d. c. cord | 5 | 60° | ----- | 2000 | 40 |  |
| DC plug | 5 | 60° | ----- | 2000 | 40 |  |
|  | | | The test sample is hung by specified  Weight it shall be bent through angles of specified degrees in one direction. Returned to its original position. Then bent specified degrees in the opposite direction.  After which it shall be returned to its original position to complete two cycle. The rate flexing shall be specified cycle per min. | | |  |
| 4 | Tensile strength of the cord | | D.C. cord  A static load of100 N shall be applied and sustained for 60s.  (5 direction) | | | | | | Excessive load shall not be applied to the contacts and the bushing shall not be detached. | |  |
| 5 | Pressure Strength of the cord 2 Test Report | | A cord shall be thrust at 2.5mm point from case until the cord bends. (The Maximum thrush strength shall be 60 N | | | | | | Excessive load shall not be applied to the contacts and the bushing shall not be detached. | |  |
| 6 | Migration  ( ■ Polystyrene  ■ ABS) | | This test is applicable to power supply cord, d.c. cords and plugs.  Ambient temperature : 50±1℃  Relative humidity: :Not specified  Duration : 24 ± 1 h  Load : 4.9 ± 0.25 N  Refer to Delta General spec.: 10000-0010(Item 5-13)  Detail show as below page | | | | | | Visually inspected any staining of the area of the resin that was in contact with the test pieces shall be hardly recognized. | |  |
| 7 | DC plug force | | Test on defined jack (EIAJ TYPE-2) | | | | | | 0.3~2.0kgf  (center shall around 1kg) | |  |
| 8 | DC plug durable test | | Test on defined jack (EIAJ TYPE-2)  5N ; 5000times (20 times or / every min) | | | | | | Electrical characteristic shall be satisfied.  Click feeling remain | |  |
| 9 | Drop Test  (Non-operating test) | | Test height : 1 or (A)m for every surface (six sides)  Test surface material : vinyl tile or (B)  (A) : 1.0 m (B) : concrete floor | | | | | | Without distinct damage in appearance.  Electrical characteristic shall be satisfied. | |  |
| 10 | Package drop and vibration | | Follow packaging test spec rev.1  After drop test, continue vibration test  Drop test level 2 | | | | | | No function error  No abnormal for appearance | |  |
| 11 | High temperature storage | | Master carton under 60℃ 80%RH 96hrs then 25℃ 2hrs | | | | | | Electrical characteristic shall be satisfied. | |  |
| 12 | Low temperature storage | | Master carton under -20℃ / 96hrs then 25℃ / 2hrs | | | | | | Electrical characteristic shall be satisfied. | |  |
| 13 | Vibration | | Follow STM-1058 8-4 I-B random vibration  X,Y,Z each axis 1hr | | | | | | Electrical and mechanical function should meet spec. | |  |
| 14 | Shock | | Peak acceleration : 100G  Duration of pulse : 15ms  9 successive shocks shall be applied in X.Y.Z axis each  ( total of 27 shocks). | | | | | | Electrical and mechanical function should meet spec. | |  |
| 15 | Adhesion of specification labels | | 1. Tape peeling test (see next page) | | | | | | There shall be no blistering or peeling of the specification label. | |  |
| 2. High temperature storage  The AC adapter shall be stored at a temperature of 65 ± 2℃  with relative humidity of 90% to 95% for 6 to 7 h. | | | | | |  |
| 3. Low temperature storage  The AC adapter shall be stored at a temperature of -20 ± 3℃ for 6 to 7 h.  Detail show as below page | | | | | |  |
| 16 | Ball Impact | Steel ball, weight 0.54kg .  Plastic tube, height 130cm(spec) | | | | | | | | 1. If case has any crack. The golden finger can’t touch inside components.  2. Hi- Pot pass. ( AC 3300V/1min )  3. Refer to UL 60950 regulation, height 130cm. | |

Migration

Place test pieces between two resin plates. The place two glass plates on them and apply a specified weight. As shown figure below. The assembly shall be stored at a specified temperature for a specified time.

Inspect visually any staining of the area of the resin that was in contact with test pieces.

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Resin plate

Material : Polystyrene(Hi-lmpact)

-Ps Japan Corp.

Diarex HT-88 Natural color (Milk-white)

-Aasahi Kasei Chemicals Corp.

AGI 02 Natural color (Milk-white)

:ABS

-Ps Japan Corp.

Acrylonitrile-butadiene-styrene TFX-410E

Natural color (Milk-white)

-Aasahi Kasei Chemicals Corp.

121 Natural color (Milk-white)

Size : 50 × 50 ± 10

Finish :The plate, produced 24h or more previously by compression molding or by extrusion. shall

Have a flat surface (mirror surface) and have no scratches or other visible sign of deterioration.

Glass plate approx. 60 × 60 × t 2mm in dimension

Test piece

Flexible cord : 2 pieces approx. 60 mm in length. removed from the finished cord sets.

Moldings (attachment plug):

One plate from the same material as attachment plug or cord connector. It shall be round in

Shape approx. ψ50 × t1 mm.

Adhesion strength specification label (Tape peeling test)

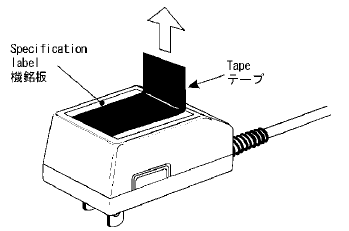
Firmly apply pressure sensitive adhesive tape on the middle of the specification label to the lengthwise direction.

Pull the tape off quickly at a 90° angle to the surface of the label once.

<Specifications>There shall be no blistering or peeling of the specification label.

<Used adhesive tape>NIGHIBAN No. 405(18mm width)

3M No. 610(18mm width)



Product Application: GAME

Product ingress protection (IP) rating: Not requirement