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| <b>TITLE</b><br>HDMI TYPE A CONNECTOR | <b>SPC. NO.</b><br>KMHDA002AF19 | <b>PAGE :</b> 1 OF 5<br><b>DATE :</b> 2018.02.14 |
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- 1. This specification covers the requirements for HDMI Connector Interface.**
- 2. Material of Components:**
  - A.Housing: Thermoplastic, UL94V-0 Rated
  - B.Contact: Copper Alloy
  - C.Shell: Copper Alloy
- 3. Design and Construction:**  
Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.
- 4. Ratings:**
  - A.Temperature: -25 ~ +85°C
- 5. Mechanical characteristics:**

| Item | Property         | Test condition  | Performance  |
|------|------------------|---|--|
| 5-1  | Vibration        | Total amplitude: 1.52mm P-P or 147 m/s <sup>2</sup> {15G}<br>Sweep time: 50-2000-50Hz in 20 minutes.<br>Duration: 12 times in each (total of 36 Times) X,Y,Z axes.<br>Electrical load: DC 100mA current shall be Flowed during the test.<br>ANSI/EIA-364-28 Condition III | Appearance:<br>No Damage<br>Contact Resistance:<br>Contact: Change from initial value: 30 mΩ Max.<br>Shell Part: Change from initial value: 50 mΩ Max.<br>Discontinuity: 1 μsec Max. |
| 5-2  | Mechanical Shock | Duration of pulse: 11ms;<br>Waveform : half sine,;<br>490m/s <sup>2</sup> {50G},3 strokes in each X.Y.Z axes<br>ANSI/EIA-364-27, Condition A  | Appearance:<br>No Damage<br>Contact: Change from; initial value: 30 mΩ Max.<br>Shell Part: Change from initial value: 50 mΩ Max.<br>Discontinuity: 1 μsec Max.                       |

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|       | 2019.02.14 | 王安盛 | 龔 雪  | 張啟濤  |              |
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| Item | Property                        | Test condition  | Per ormance  |
|------|---------------------------------|---|--|
| 5-3  | Durability                      | Measure contact and shell resistance after Following.<br>Automatic cycling:<br>10000 cycles at 100±50 cycles per hour | Contact Resistance:<br>Contact: Change from; initial value: 30 mΩ Max.<br>Shell Part: Change from Initial value: 50 mΩ Max.  |
| 5-4  | Insertion and withdrawal Forces | Insertion and withdrawal speed of 25mm/minute.<br>ANSI/EIA-364-13   | Insertion force: 45N MAX.<br>withdrawal force:<br>10N MIN. 40N MAX.  |
| 5-5  | Cable Flex                      | 100 cycles in each of 2 planes Dimension X=3.7 x Cable Diameter.<br>ANSI/EIA-364 41C, Condition I                     | Discontinuity: 1μsec Max.<br>Dielectric Withstanding Voltage and Insulation Resistance: Conform to item of dielectric withstanding voltage and insulation resistance |

**6. Electrical characteristics:**

| Item | Property              | Test condition   | Performance        |
|------|-----------------------|--|--------------------|
| 6-1  | Contact Resistance    | Mated connectors.<br>Contact: measure by dry circuit, 20mV MAX.10mA<br>Shell: measure by dry circuit, 5V MAX.100mA<br>ANSI/EIA-364-06B           | 30mΩ MAX.          |
| 6-2  | Dielectric Strength   | Unmated connectors, apply 500V AC between adjacent terminal or ground.<br>Mated connect or, apply 300V AC. between adjacent terminal and ground. | No Damage          |
| 6-3  | Insulation resistance | Unmated connectors, 500V DC isapplied between contact from shell .<br>ANSI/EIA-364-21C   | 100 MΩ MIN.unmated |
|      |                       | Mated connectors,150V DC isapplied between contact from shell.   | 10 MΩ MIN.mated    |

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| <b>Item</b> | <b>Property</b>                           | <b>Test condition</b>  | <b>Performance</b>  |
|-------------|---|--|---|
| 6-4         | Contact Current Rating                    | 55°C MAX. ambient<br>85°C MAX. temperature change<br>ANSI/EIA-364-70A  | 0.5A MIN  |
| 6-5         | Applied Voltage Rating                    | 40V AC continuous MAX.on any signal pin with respect to the shield.  | No Damage   |
| 6-6         | Electrostatic Discharge                   | Test unmated each connectors from 1KV to 8KV in 1 KV steps using 8mm ball probe.<br>IEC-801-2  | No evidence of Discharge to Contacts at 8 KV  |
| 6-7         | T.M.D.S Signal Time Domain impedance      | Rise time $\leq 200\text{ps}(10\%-90\%)$<br>Signal to Ground pin ratio per HDMI designation.<br>Differential Measurement Specimen<br>Environment Impedance =100Ω differential;<br>Source-side receptacle connector mounted on a controlled impedance PCB fixture.<br>ANSI/EIA-364-108                                | Connector Area:<br>100Ω±15%<br>Transition Area:<br>100Ω±15%<br>Cable<br>Area:100Ω±10% |
| 6-8         | T.M.D.S Signal Time Domain Crosstalk:FEXT | Rise time $\leq 200\text{ps}(10\%-90\%)$<br>Signal to Ground pin ratio per HDMI designation.<br>Differential Measurement Specimen<br>Environment Impedance =100Ω differential;<br>Source-side receptacle connector mounted on a controlled impedance PCB fixture.<br>Driven pair and victim pair.<br>ANSI/EIA-364-90 | Type :5% MAX.   |

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**7. Environment characteristics:**

| Item | Property      | Test condition   | Performance   |
|------|---------------|--|---|
| 7-1  | Thermal Shock | 10 cycles of:<br>a) -55°C for 30 minutes<br>b) +85°C for 30 minutes<br>ANSI/EIA-364-32C,Condition I  | Appearance:No Damage<br>Contact: Change from; initial value: 30 mΩ Max.<br>Shell Part: Change from initial value:50 mΩ Max. |
| 7-2  | Humidity      | Mate connectors together and perform the test as follows.<br>Temperature:+25 to +85°C<br>Relative Humidity :80 to 95%<br>Duration:4 cycles(96 hours)<br>Upon completion of the test, specimens shall be conditioned at ambient room conditions for 24 hours. after which the specified measurements shall be performed<br>ANSI/EIA-364-31B | Appearance:No Damage<br>Contact: Change from; initial value: 30 mΩ Max.<br>Shell Part: Change from initial value:50 mΩ Max. |
| 7-3  | Thermal Aging | Mate connectors and expose to +105±2°C for 250 hours.<br>Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed.   | Appearance:No Damage<br>Contact: Change from; initial value: 30 mΩ Max.<br>Shell Part: Change from initial value:50 mΩ Max. |

**8. Appearance:**

No scratches,soil,rust or discoloration shall be observed.

**9. Compliance with specifications:**

The above specification shall be read in conjunction with the applicable drawing and the individual specification,

Whenever this specification conflicts with the applicable drawing or the individual specification ,the latter shall govern.

**KUNMING**

**ELECTRONICS CO., LTD.**

***SPECIFICATION***

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**10. Country of origin:**

This jack is made and assembly in china.

**11. Amendment:**

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