

PRODUCTS SPECIFICATION

DESCRIPTION : Category 2 HDMI Cable Assembly
CUSTOMER :
COMOSS P/N : HDMIC Series
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Designer : Miles

Approval



Customer Signature



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Subject:

Product Specification – Category 2 HDMI Cable Assembly

1.0 General

This specification describes the mechanical, electrical and environmental characteristics of Category 2 HDMI Cable Assemblies (HDMIC Series). The performance is designed for complying with HDMI (High-Definition Multimedia Interface) Specification V1.3a and Compliance Test Specification V1.3b. All materials of the Category 2 HDMI cable assembly meet the requirement of RoHS (Restriction of Hazardous Substances). The reflow process accord with the lead-free condition.

2.0 Series Description

HDMIC Series (Cable Assembly)

Please review the detail order information at COMOSS website.

3.0 Application

(1) Ambient Temperature Range: -25 to +85°C

4.0 Overall Dimensions

See attachment.

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5.0 Electrical performance

Item	Description	Test methods and Condition	Requirements
5-1	Rating Voltage	40 volts AC (RMS.) continuous maximum on any signal pin with respect to the shield.	No breakdown.
5-2	Rating Current	Ambient: 55 °C max. Maximum change from initial: 30 °C.	0.5A min.
5-3	Contact Resistance	ANSI/EIA 364-06A-83 Mated connectors Contact: dry circuit, 20mV max. 10mA Shell: open circuit, 5V max. 100mA.	Contact resistance excluding conductor resistance: 10mΩ max.
5-4	Insulation Resistance	ANSI/EIA 364-32 Unmated connectors: apply 500Vdc between adjacent terminal or ground. Mated connectors: apply 150Vdc between adjacent terminal and ground.	100 MΩ min. (unmated) 10 MΩ min. (mated)
5-5	Dielectric Withstanding Voltage	ANSI/EIA 364-20 method 301 Unmated connectors: apply 500 Vac(rms) between adjacent terminal or ground. Mated connectors: apply 300Vac(rms) between adjacent terminal and ground.	No breakdown.
5-6	Wire assignment	See the drawing.	Valid connection: 100Ω max. Valid no-connection: 1MΩ min.

6.0 Mechanical performance

6-1	Durability	Automatic cycling: 10,000 cycles at 100+/-50 cycles per hour.	Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ.
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Item	Description	Test methods and Condition	Requirements	
6-2	Cable flex	ANSI/EIA 364-41, condition I 100 cycles in each of 2 planes X=3.7 x cable diameter	1.Discontinuity: 1µs max. 2.Insulation resistance: 100MΩ min. (unmated) 10MΩ min. (mated) 3.Dielectric withstanding voltage: No breakdown.	
6-3	Connector minimum envelope	See the drawing.	1.Overmold extends to connector shell: 3.5mm max. 2.Overmold to the tip of the shell: 9mm min.	
7.0 Environmental performance				
7-1	Thermal Aging	ANSI/EIA 364-17, condition 4, method A Mated connectors and expose to +105+/-2°C for 250 hrs. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hrs.	1.Appearance: No damage. 2. LLCR: Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ.	
7-2	Humidity	ANSI/EIA 364-31 Mated pairs Temp: +25 ~ 85°C Relative humidity: 80 ~95% Duration: 4 cycles (96hrs) Upon completion of the test, specimens shall be conditioned at ambient room conditions for 24hrs.	1.Appearance: No damage. 2. LLCR: Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ.	
7-3	Thermal shock	ANSI/EIA 364-32, Condition I 10 cycles of: a. -55°C for 30 minutes b. +85°C for 30 minutes	1.Appearance: No damage. 2. LLCR: Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ.	

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Item	Description	Test methods and Condition	Requirements	
7-4	Vibration	ANSI/EIA 364-28, condition III, method 5A Amplitude: 1.52mm P-P or 147m/s ² (15G). Sweep time: 50-2000-50Hz in 20 minutes. Duration: 12 times for each X, Y, Z axes (36 times total). Electrical Load: DC 100mA current shall be applied during the test.	1.Appearance: No damage. 2. LLCR: Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ. 3.Discontinuity: 1μs max.	
7-5	Mechanical shock	ANSI/EIA 364-27, condition A Pulse width: 11ms. Wave form: half sine, 490m/s ² (50G), 3 strokes for each X. Y. Z. axes.	1.Appearance: No damage. 2. LLCR: Contact: Max. change from initial: 30mΩ. Shell: Max. change from initial: 50mΩ.	
<u>8.0 High frequency characteristics</u>				
8-1	TMDS data eye diagram	HDMI compliance test spec. V1.3b	HDMI interface spec. V1.3a	
8-2	TMDS signals time domain impedance	ANSI/EIA 364-108 draft proposal Rise time $\leq 200\text{ps}$ (10%~90%) Signal to Ground pin ratio per HDMI designation. Source-side receptacle connector mounted on a Controlled impedance PCB fixture.	Transition Area: $100\ \Omega \pm 15\%$ Cable Area: $100\ \Omega \pm 10\%$	
8-3	Intra-pair skew Inter-pair skew	HDMI compliance test spec: V1.3b.	HDMI interface spec. V1.3a	

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Item	Description	Test methods and Condition	Requirements	
8-4	TMDS signals time domain cross-talk FEXT	ANSI/EIA 364-90 draft proposal Rise time $\leq 200\text{ps}$ (10%~90%) Signal to Ground pin ratio per HDMI designation. Source-side receptacle connector mounted on a Controlled impedance PCB fixture.	HDMI interface spec. V1.3a	
8-5	Attenuation	HDMI compliance test spec: V1.3b.	HDMI interface spec. V1.3a	