

PRODUCT SPECIFICATION

TITLE

HDMI plug to HDMI plug Cable Assembly

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.
Α	EC No: DATE: 05/25/2018	HDMI Plug to	Plug Cable Assen	nbly	1 of 7
DOCUMEN	ΓNUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPRO\	/ED BY:
PS	68767-0007	CISSY WANG	LIU LIHUA	FRED	NIE
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1.0 SCOPE

This specification covers the requirements for HDMI 1.4 CAT 2 plug to HDMI plug Cable Assy.

2.0 PRODUCT DESCRIPTION

See the sales drawing for product shape; dimension and materials, the other section of this specification for the necessary referenced document and specification. The part number serial covered in this specification are as follow table:

Molex Series 68767

Detail HDMI plug to HDMI plug cable

3.0 PRODUCT SPECIFICATIONS

- 3.1 Rated voltage (Maximum): 40V AC (RMS)
- 3.2 Rated current (Maximum): 0.5A AC (RMS)/DC
- 3.3 Temperature

Operating temperature range: 0°C to +70°C Storage temperature range: -20°C to + 70°C

4.0 QUALIFICATION

Laboratory conditions and sample selection are in accordance with EIA-364-1000.01

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5.0 PERFORMANCE

5.1 ELECTRICAL CHARACTERISTICS

Test Descripti	on	Condition	Performance Rec	juirement	
Low Leve Contact	ANSI/EIA 364-06B Contact: measure by 10 mA Max.	connectors dry circuit, 20 mV Max.,	30 milliohm Max. [Initial contact resistance e conductor resistance:10m (Target design value)]		
Resistance (LLCR)	ANSI/EIA-364-06A-8	3 y circuit, 5V Max., 100 mA	50 milliohm Max.		
Dielectri Withstand Voltage	ing Mated connectors No breakdown				
Insulatio Resistan	Apply 500V DC betw ground. (ANSI/EIA 364-21, m	ed connector een adjacent terminal and nethod 302)	100megohm Min.		
i teolotari	Mated Apply 150V DC betw ground.	Mated connectors Apply 150V DC between adjacent terminal and ground. (ANSI/EIA 364-21, method 302)			
Curren	Contact Initial ambient temperature: 55°C Max Current After temperature changed: 85°C Max Rating (ANSI/EIA-364-70,TP-70)		0.5A Min.		
Applied Voltage Rating	e signal pip with respe	uous maximum, on any ct to the shield.	No breakdown		
Electrosta Discharg	$\frac{\text{ATIC}}{\text{kV}}$ in 1 kV steps usin	connector from 1 kV to 8 Ig 8 mm ball probe.	No evidence of discharge t	o contacts at 8kV	
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	Rise time≦200psec.(10%~90%) Signal to ground pin ratio per HDMI	Contact area	100±15 Ω
TMDS Signals Time Domain	Designation. Differential measurement specimen environment impedance=100 ohms differential	Transition area 100±15 Ω	100±15 Ω
Impedance	Source side receptacle connector mounted on a controlled impedance PCB fixture. (ANSI/EIA-364-108 Draft Proposal)	Cable area	100±10 Ω
TMDS Signals Time Domain Cross-talk FEXT	Rise time≦200psec.(10%~90%) Signal to ground pin ratio per HDMI Designation. Differential measurement specimen environment impedance=100 ohms differential Source side receptacle connector mounted on a controlled impedance PCB fixture. Driven Pair and Victim Pair.	-20dB Max.	
TMDS Signals	Rise time = TIME (TMDSx+)-TIME (TMDSx-) Differential Measurement Specimen Environment Impedance = 100 ohms differential.	Intra-pair Skew: 112 picoseconds/cab	le Max.
Skew	Source side receptacle connector mounted on a controlled impedance PCB fixture.	Inter-pair Skew: 1.78 nanoseconds/ca	
Attenuation	Connect cable to connector on test fixture, measure by Network Analyzer. (See below figure)	0 825 1650 2473 5.0 5.0 10.0 15.0 20.0 25.0 30.0 45.0 50.0 35.0 40.0 45.0 50.0 35.0 40.0 45.0 50.0 45.0 50.0 45.0 45.0 4	Frequency [MHz] 5 3300 4125 4950 5775 12.0 20.0 25.0 25.0 5100/Hz Limits – Sufficient Condition
^{↓/} Digital Sampling., Oscilloscope↓/	Signal·x++/	/ork·Analyzer≁	-)
	Test Fixture., Test Fixture., Test cable., main Differential Impedance asurement Configuration Test cable Attenuation Measurement of	Test Cable	
Signal Skew Me EVISION: ECF A EC N DATI	Test Fixture Splitter+' Test cable Cross talk FEXT+' main Differential Impedance Attenuation Measurement of Attenuat	configuration* ²	
Signal Skew Me EVISION: ECF A EC N DATH DCUMENT NUM	Test Fixture Splitter+' Test cable Cross talk FEXT+' main Differential Impedance Attenuation Measurement of Attenuat	configuration4 ³	5 of 7



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5.2 MECHANICAL CHARACTERISTICS

Test Description	Test Description Test Condition		nce Requirement
	Rotate the specimen up to 100 cycles in each of 2 planes at the speed of 12 to 14 complete cycles (of 180 total traverse) per minute, see paragraph 6 Mandrel	Discontinuity 1 microsecond Max	
Cable Flexing	Diameter : X =3.7 × Cable Diameter. (ANSI/EIA-364-41, Condition I)		Dielectric Withstanding Voltage and Insulation
Insertion Force/	EIA 364-13 The insertion and withdrawal force test	Withdrawal Force	9.8N {1.0 kgf} Min. 39.2N {4.0 kgf} Max.
Withdrawal Force	shall be done at a maximum rate of 25±3 mm per minute.	Insertion Force	44.1 {4.5 kgf} Max.
EIA 364-38 Test Condition A The cable assembly shall be subjected to a 40N axial load for a minimum of 1 minute while clamping one end of the cable plug.			amage and no electrical microsecond to the cable
Durability or Insertion/Extraction Cycles	Automatic cycling: 10,000 cycles at 100±50 cycles per hour. EIA 364-09	Contact Resistance	Change form initial requirement : Contact: 30 milliohm Max. Shell: 50 milliohm Max.

5.3 ENVIRONMENTAL CHARACTERISTIC

	Test Descript		Test Procedure		Performance Requirement			
					Арр	bearance	No Damage	
	Thermal Shock		Mate connectors and subject to the following conditions for 10 cycles. 1cycle -55±3°C for 30 minutes		re		Change form initial requirement :	
			+85±3°C for 3 (ANSI/EIA-364	-32, Condition I)	Resistance	Contact: 30 milli Max.	iohm	
							Shell: 50 milliohm Max.	
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	250 hours. Upon com	expose to 105±2°C for pletion of the exposure	Appearance	No Damage
Tempera Life	to 2 hours, after which measurements shall	nt room conditions for 1 h the specified	Contact Resistance	Change form initial requirement : Contact: 30 milliohm Max.
				Shell: 50 milliohm Max.
A) Mate connector the test as follow Temperature : +2 Relative Humidity Duration : 4 cycl		0% to 95%	Appearance	No Damage
Humidi	Upon completion of the conditioned at am for 24 hours, after whe measurements shall (ANSI/FIA-364-31B)	he test, specimens shall bient room conditions ich the specified	Contact Resistance Contact Shange form initial requirement : Contact: 30 milliohm Max. Shell: 50 milliohm Max	requirement : Contact:
Humidity	B) Unmate connector as follows. Temperature : +25 to Relative Humidity : 80 Duration : 4 cycles (5) Unmate connectors and perform the test		No Damage
	Upon completion of the be conditioned at am for 24 hours, after wh measurements shall (ANSI/EIA-364-31B)	ich the specified	Dielectric Withstanding Voltage and Insulation Resistance	Conform to item of Dielectric Withstanding Voltage and Insulation Resistance
	salt mist condition. U exposure period, salt	Mate connector and expose to the following salt mist condition. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running		No Damage
Salt Spra	water, after which the measurements shall NaCl solution: Concentration: 5%±1 Spray time: 24h±1h. Ambient Temperature EIA-364-26	be performed. %.	Contact Resistance	Change form initial requirement : Contact:30 milliohm Max. Shell:50 milliohm Max.
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