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Product Specification

产 品 规 格 书

Prepared by: Athlon Wang

制 定:

Checked by: Chain Feng

审 核:

Approved by: Chain Feng

核 准:

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1. SCOPE

1.1 Content

This specification is designated the Performance, Tests and quality requirements for High-Definition Multimedia Interface (HDMI) Connector.

1.2 Design and Construction

Product shall be conformed the Design, Construction and Physical dimensions shown as product drawing.

2. Material

Connector

Contact : Copper alloy , Selective gold plating on contact area , Gold plating on solder tail or Tin plating , Nickel underplate.

Housing : High Temperature Thermoplastic, UL94V-0 rated.

Shell : Copper alloy, Nickel Plating.

3. Specification

Current Rating : 0.5A per contact minimum

Voltage Rating : 40V AC(RMS)

Operating temperature : -25°C ~ +85°C

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4. Test description

NO.	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
1	Visual Inspection Refer to 1. RS-364-18	The inspection results should be compliant with the individual specification.	Before the qualification test, all these components shall be examined the Features, Construction as per applicable specification and documents.
2	Low Level Contact Resistance (Contact): Refer to: 1. RS-364-23	Contact: 30mΩ maximum	Mate connectors: Measure by dry circuit, 20mV maximum, 10mA.
	Contact Resistance(shell) Refer to: 1.RS-364-06A-83	Shell: 50 mΩ maximum	Shell: Measure by open circuit, 5V maximum, 100mA
3	Insulation Resistance Refer to: 1. RS-364-21 2. MIL-STD-202F 3. MIL-STD-1344A 3001.1	100 Mohms minimum (unmated) 10Mohms minimum (mated)	Unmated connectors, Apply 500Volts DC (RMS.) between adjacent terminal or ground. Mated connectors, Apply 150Volts DC between adjacent terminal or ground.
4	Dielectric Withstanding Voltage Refer to: 1. RS-364-20 2. MIL-STD-202F 301 3. MIL-STD-1344A 3001.1	No evidence of Flashover or break-down.	Unmated: Unmated connector, apply 500Volts AC(RMS.) between adjacent terminal or ground. Mated: mated connector, apply 300Volts AC(RMS.) between adjacent terminal or ground.
5	Solderability Refer to: MIL-STD-202F-208F	The tail of contact is covered by continuous new solder. and the area of "Voids Solder" cannot exceed 5% of total area.	Immersed the contact of connector into the molten-Tin oven as below condition, -Temp of Tin Oven: 245°C -Speed: 25.4mm/sec -Time: 5 seconds

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NO.	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
6	Durability Refer to : 1.RS-364-09 2.MIL-STD-1344A 2016	Contact resistance change from initial requirement: Contact: 30 milliohm maximum. Shell: 50 milliohm maximum.	The mated specimen are tested 10,000 cycles between mating and unmating at a rate of 100±50 cycles per hour.
7	Humidity Refer to : 1.RS-364-31 2.MIL-STD-202F 103B 3.MIL-STD-1344A 1002.2	Appearance: No Damage Contact Resistance change from initial requirement: Contact: 30 milliohm maximum. Shell: 50 milliohm maximum	A : Mate connectors together and repeat the test specified in illustration I up to 4 cycles. Upon completion of the test, specimens shall be conditioned at ambient room conditions for 24 hours, after which the specified measurements shall be preformed. Temperature: +25°C~+85°C Relative Humidity: 80%~95% Duration: 4 cycles(96hours)
		Appearance: No Damage Contact resistance change from initial requirement: Contact: 30 milliohm maximum. Shell: 50 milliohm maximum Insulation Resistance: Must meet Item 3	B : Unmate each connectors and repeat the test specified in illustration I up to 4 cycles. Upon completion of the test, specimens shall be conditioned at ambient room conditions for 24 hours, after which the specified measurements shall be preformed. Temperature: +25°C~+85°C Relative Humidity: 80%~95% Duration: 4 cycles(96hours)



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NO.	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
8	Insertion Force & Withdrawal Force Refer to: 1.RS-364-37 2.MIL-STD-1344A-201 3.1	Insertion force is 4.5kgf maximum. Withdrawal force is 1.0~4.0kgf after 2,000 cycles and 0.5~4.0kgf after 2001~10000 cycles	The specimen are mounted to mounting fixtures by the normal mounting menas. The peak force shall be recorded at the maximum rate of 25±3mm per minute
9	Salt Spray Refer to: 1.RS-364-26 2.MIL-STD-202F 101D 3.MIL-STD-1344A 1001.1	After the Salt Spray test , The connectors shall meet the requirements of contact resistance and insulation resistance, etc.	The connector specimen are testing with the 5% Salt Water (NaC1) , 6.5 – 7.2 PH , for 48 hours of Salt Spray test.
10	Temperature Life Refer to: 1. RS-364-17	Appearance: No Damage Contact resistance change from initial requirement: Contact: 30 milliohm max. Shell: 50 milliohm max.	Mate connectors and expose to 105±2°C for 250 hours. 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.

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5. Test sequences:

Test of Examination	Test Group					
	A	B	C	D	E	F
	Test Sequence					
Visual Inspection	1, 7	1,7	1,5	1,5	1,3	1,3
Low Level Contact Resistance	2, 6		2,4	2,4		
Insulation Resistance		2,5				
Dielectric Withstanding Voltage		3,6				
Solderability						2
Durability	4					
Humidity		4				
Mating & Unmating Force	3, 5					
Salt Spray			3			
Temperature Life				3		
number of samples	2	2	2	2	2	2

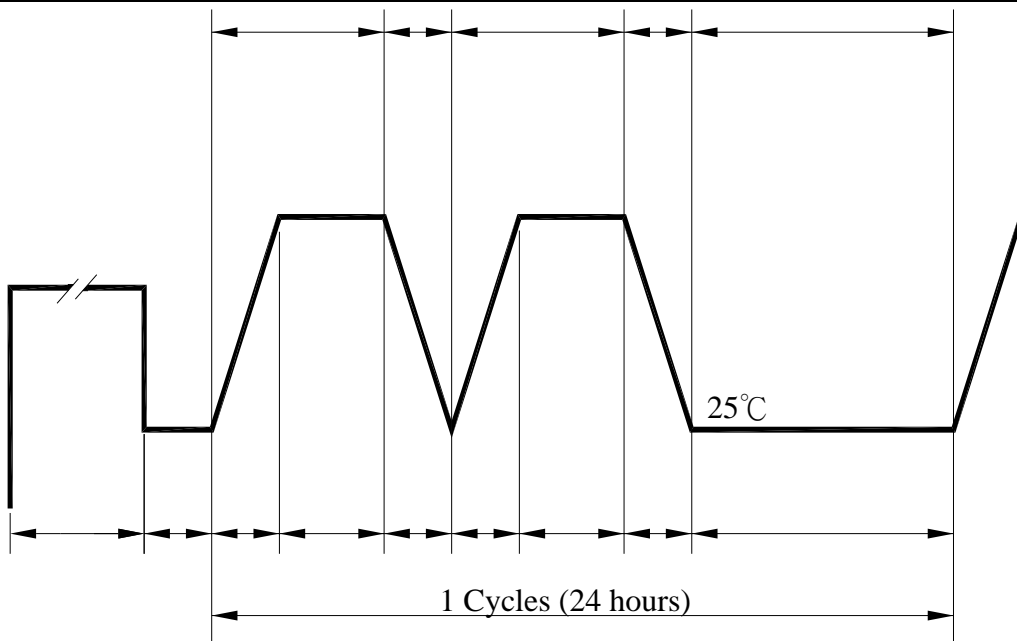


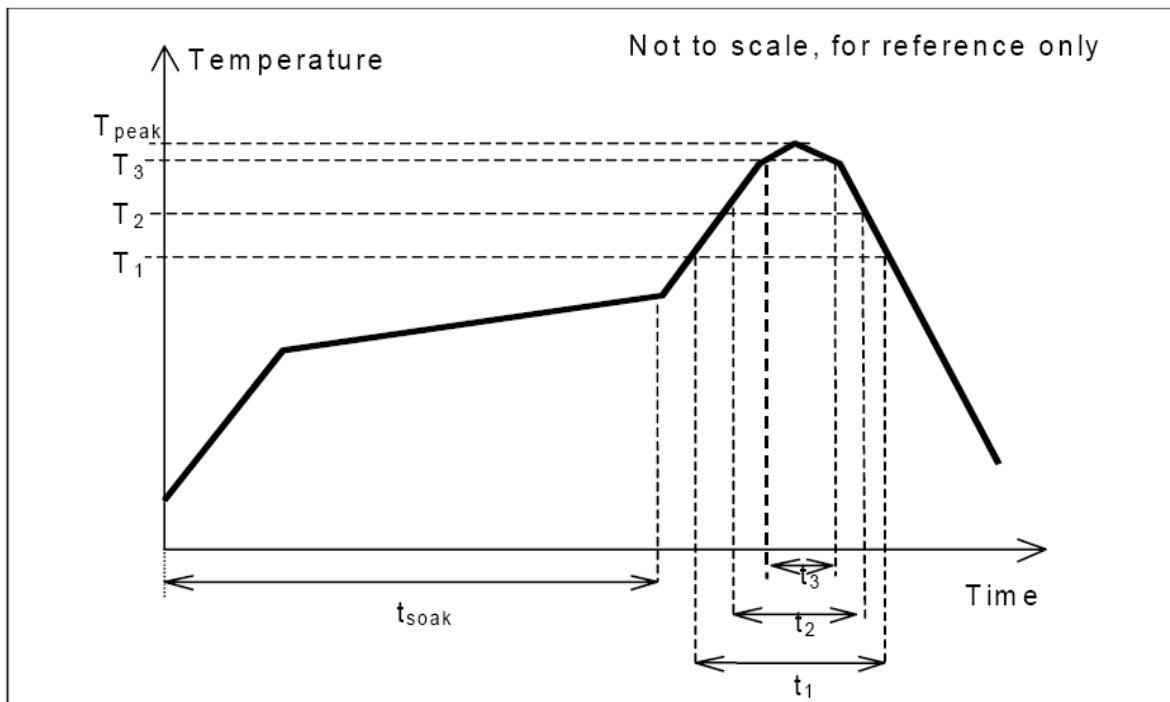
ILLUSTRATION I

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REFLOW SOLDERING PROFILE

Pb-free reflow profile requirements:

Parameter	Reference	Specification
Average temperature gradient in preheating		2.5°C/s
Soak time	t _{soak}	2-3 minutes
Time above 217°C	t ₁	60 s
Time above 230°C	t ₂	50 s
Time above 250°C	t ₃	5 s
Peak temperature in reflow	T _{peak}	255°C (-0/+5°C)
Temperature gradient in cooling		Max -5°C/s



This profile is the minimum requirement for evaluating soldering heat resistance of components. Heat transfer method used for reflow soldering is hot air convection. The actual air temperatures used to achieve the specified profile is higher and largely dependent on the reflow equipment.