ELECTRIC CONNECTOR TECHNOLOG	Document Number: 606511468801

产品规格书

Product Specification

P/N: 818023134	Title : **OmniEdge ASM**

Rev.	ECN	Release and Revision Description	Prepared By/Date:	Approved By/Date:
A	ECN20****	The new formulation	秦大争 2020.11.23	蔡家兴 2020.11.23

Content

目录

1. Scope:

This Product Specification covers the requirement of OminEdge ASM cable assemblies on product performance, test methods and quality assurance provisions

2. Product Application & Features:

The OminEdge ASM cable assembly is designed for in the servers, Data storage, Workstation, etc.

Product Features:

- Provide 12 channels signal transmission as per industry standard.
- Data speed: support PCIE GEN4 16Gbps.
- Meet GB/T 1.1—2009 OR SFF-TA-1002 Specification.

3. Ratings:

Voltage Rating:	30 VAC /contact;
Current:	1.0 A /contact;
Insulation Resistance:	10MegaOhm;
Withstanding Voltage:	500V DC 1 minute ;
Durability:	200 cycles

4. Electrical Performance

Item	Description	Test Condition	Requirement
4.1	**Low Level Contact Resistance**	EIA-364-23 (termination of connector to board carrier shall be included in the measurements)	Refer to EIA-364-23, Table 5.4.2. LLCR Initial: 30mΩ Delta: 15mΩ
4.2	**Insulation Resistance**	(EIA 364-21) Testing by applying the specified voltage (DC 100 V) between adjacent contacts for one minute.	10MegaOhm Minimum
4.3	**Dielectric withstanding voltage**	(EIA 364-20) Testing by applying the specified voltage (AC 300 V) between adjacent contacts for one minute.	No defect between adjacent contacts

5. Mechanical Performance

Item	Description	Test Condition	Requirement
5.1	**Mating Force**	(EIA 364-13) Measuring the required force for complete mated to the mated connector at 25.4mm/minutes Max.	0.5N/PIN MAX

5.2	**unMating Force**	(EIA 364-13) Measuring the required force for complete mated to the mated connector at 25.4mm/minutes Max.	0.05N/PIN Min
5.3	**temperature rise**	According to GB/T 5095.3-1997 test method 5A, and using the following rules: A) Ambient temperature: 25 ℃±5 ℃; B) The connector welded to the test board and the corresponding gold-finger pair insert; C) Test current: DC; D) The temperature sensing line is placed on the energized contact and the shell, and 5 detection points are placed to value the highest temperature point.	30 K max
5.4	**Axial Latch Retention**	Pull in direction parallel to insertion, hold for minimum of 60 seconds	50N, no damage
5.5	**Durability (preconditioning)**	EIA-364-09, perform 5 plug/unplug cycles	No evidence of physical damage
5.6	**Durability**	EIA-364-30	200 cycles min
5.7	**Mechanical Vibration**	EIA-364-28 Test Condition D Random profile: 5 Hz @ 0.01 g2/Hz to 20 Hz @ 0.02 g2/Hz (slope up) 20 Hz to 500 Hz @ 0.02 g2/Hz (flat) Input acceleration is 3.13 g RMS 10 minutes per axis for all 3 axes on all samples Random control limit tolerance is ± 3 dB Shock and Vibration board, Annex D	No damage No discontinuity longer than 1 microsecond allowed 15 milliohms maximum change from initial (baseline) contact resistance
5.8	**Mechanical Shock**	EIA-364-27, Test Condition A Trapezoidal shock 50 G, ± 10% Duration 11 ms Velocity change 170 inch/sec, ± 10% Three drops in each of six directions are applied to each of the samples Shock and Vibration board, Annex D	No damage 15 milliohms maximum change from initial (baseline) contact resistance
5.9	**Latitudinal / Longitudinal Pull Force**	25N applied perpendicular to mating interface. 360 degrees in 45 degree increments, beginning perpendicular to long end of the connector body.	-Monitor LLCR, no discontinuities - No damage - 15mΩ maximum change from initial (baseline) contact resistance

6. Environmental Performance

Item	Description	Test Condition	Requirement

6.1	**Storage Temperature & Humidity**	-20°C to +85°C degrees 80% Relative Humidity	None
6.2	**Thermal Shock**	EIA-364-32, Method A, Table 2, Test Condition 1, -55 °C to 105 °C, perform 25 cycles in mated condition	Electrical, mechanical and environmental criteria
6.3	**Cyclic Temperature and Humidity**	Completely insert the connector into the test box according to the 11m test in GB/T 5095.6-1997, and put it into the test box for 50 cycles, 10H for each cycle a total of 500 hours. Details of each cycle are as follows: A) Linearly increased from 25℃, humidity 80%-98% to 65℃, humidity 90%-98%, duration: 2 hours; B) 65℃, 90%-98% humidity, for 4 hours; C) From 65 ° C to 25 ° C, humidity 80%-98%, duration: 2 hours; D) 25℃, humidity 80%-98%, duration: 2 hours.	Electrical, mechanical and environmental criteria
6.4	**Temperature Life**	According to GB/T 5095.6-1997 test 11I, and the following rules: A) Insert the connector socket end and the corresponding test board or wire connector; B) Test conditions: 105 ℃ ± 2 ℃; C) Test time: 240h.	Electrical, mechanical and environmental criteria
6.5	**Thermal Disturbance**	EIA-364-1000 Cycle the connector between 15 ± 3 °C and 85 ±3 °C, as measured on the part. Ramps should be a minimum of 2 °C/minute. Dwell times should ensure that the contacts reach the temperature extremes (a minimum of 5 minutes), humidity is not controlled; perform 10 cycles in mated condition.	Electrical, mechanical and environmental criteria

7. High frequency Performance

7.1 PCIE 4.0:

ITEM	PCIE4.0
Rise time	40ps(20%~80%)
SDD21/SD12	f(GHz)≥-8dB 0.05≤f≤8GHz f(GHz)≥-12dB 8<f≤12GHz
SDD11/SDD22	0.05GHz~2GHz，-10dB Max. 2GHz~8Ghz，f-12dB Max. 8Ghz~12Ghz，-4dB Max.
NEXT	0.05GHz~0.12GHz，≤-55dB 0.12GHz~12GHz，≤-36.5+12.5xLog10(f/4) dB
FEXT	0.05GHz~0.15GHz，≤-57dB 0.15GHz~12GHz，≤-36+15xLog10(f/4) dB
SCD21	0.05Ghz~12Ghz，-18dB Max.
SCD21-SDD21	0.05Ghz~12Ghz，-10dB Max.
SCD11/SCD22	0.05GHz~12GHz，≤(2/3)*f-20dB
SCC11/SC22	0.05GHz~12GHz，-2dB Max
Difference Impedance	Cable 85Ω+/-10% Connector 85Ω+/-15%
Delay	≤5. ns

Test Item 测试项目	Group（测试分组）							
	A	B	C	D	E	F	G	H
Examination of product	**1,**	**1**	**1,**	**1,**	**1**	**1,5**		

8. Test Sequence and Sample Quantity/测试顺序及样品数量

Low Level Contact Resistance	2	2,8,13,15	2,6,10,14	2	2	2,4		
Insulation Resistance	3	3,9	3,7,11,15	3	3			
Dielectric withstanding voltage	4	4,10	4,8,12	4	4			
Mating and unmating		5,11						
Durability(preconditioning)		6						
Durabilty Cycles		7						
Axial Latch Retention				6				
Longitudinal Force				5				
Mechanical Shock		12						
vibration		14						
Temperature Life	9		13					
Thermal Shock			5					
Cyclic Temp and Humidity			9					
Thermal Disturbance						3		
Difference Impedance	5,10				4			
SCD21-SDD21					5			
SCD11/SCD22	6,11				6			
SCC11/SC22					7			
SDD21/SD12					8			
SDD11/SDD22					9			
NEXT	7,12				10			
FEXT	8,13				11			
SCD21					12			
Delay					13			
Sample QTY(PCS)	5	5	5	5	5	5		
The number of group is test sequence 测试分组中的序号为试验顺序.								