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1. Scope:

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

2. Product Application & Features:

The HD MINISAS cable assembly is designed for in the servers, Data storage, Workstation, etc.

Product Features:

- Provide 8 channels signal transmission as per industry standard.
- Data speed: support SAS3.0 12Gbps.
- Meet SAS3.0 and HD MiniSAS SFF-8643 Specification.

3. Ratings:

Voltage Rating:	30 VAC /contact;
Current:	0.5 A /contact;
Insulation Resistance:	1000MegaOhm;
Withstanding Voltage:	500V DC 1 minute ;
Durability:	250 cycles

4. Electrical Performance

Item 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求
4.1	Low Level Contact Resistance	(EIA 364-6) 320 mV DC, 10 mA	20 milliohms maximum for signal contacts(initial)
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 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求
5.1	Mating Force	(EIA 364-13) Measuring the required force for complete mated to the mated connector at 10mm/minutes Max.	150N maximum
5.2	Unmating Force	(EIA 364-13) Measuring the required force for complete disengagement from the mated connector at 10mm/minutes Max	50N maximum
5.3	Durability	(EIA 364-09) Engage and disengage the receptacle connector which is soldered to the test board and its mating plug cable for 250 cycles at the speed of 25±3mm/minutes along the mating direction by the push-push machine. (按测试顺序进行测试，最终测试完成后，才判断产品性能，此处不进行单独项目判断)	No damage
5.4	Mechanical Vibration	(EIA 364-28) test condition VII test condition letter D 15 minutes in each of 3 mutually perpendicular directions. (见 364-28c-1997 文件第 14 页表格)	No damage No discontinuity longer than 1 microsecond allowed 20 milliohms maximum change from initial (baseline) contact resistance

5.5	Mechanical Shock	<p>EIA-364-27 test condition letter H 3 shocks in each axis (18) (见文件 364-27b-1996 第 7 页表格内“H”项)</p>	<p>No damage 20 milliohms maximum change from initial (baseline) contact resistance 初态和末态接触阻抗变化 不可大于 20 毫欧</p>
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6. Environmental Performance

Item 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求
6.1	Cyclic Temperature & Humidity	<p>EIA-364-31 Method III Subject unmated specimens to 10 Cycles (10 days) between 25° and 65° C at 80-100% RH (364-31a-1983 内第 7 页表格)</p>	None
6.2	Thermal Shock	<p>EIA-364-32 , Method A, test condition I (-55°C to 80°C), test duration A-3 (100 cycles) -55°C至80°C情况下, 测试持续时间100周 期</p>	None
6.3	Temperature Life	<p>EIA-364-17, method A (No electrical load), Test Condition 2 (70°C), test time condition C, (500hrs) 70°C情况下, 测试时间500H</p>	None

7. High frequency Performance

Item 项目	Description 项目描述	Test Condition 测试条件	Requirement 规格要求
7.1	Differential Impedance	Rise time of 70ps (20 % - 80 %)	100 ohms Nominal
7.2	SCD21-SDD2 1	100 MHz - 9 GHz	-10 dB
7.3	Differential Mode Return Loss (SDD22)	Measured at 100 MHz - 9 GHz	Max(-10, Min (-3.9, -7.9+13.3-log ₁₀ (freq in GHz/3)))
7.4	Common Mode Return Loss (SCD22)	Measured at 100 MHz - 9 GHz	Max(-10, Min (-3.9, -7.9+13.3-log ₁₀ (freq in GHz/3)))
7.5	Differential to Common Mode Conversion (SCD21)	Measured at 100 MHz - 9 GHz	-18 dB
7.6	Differential Insertion Loss	Measured at 10 MHz – 4.5 GHz Measured at 4.5 GHz - 9 GHz	10 MHz–4.5 GHz :-6 dB 4.5 GHz-9 GHz: -11 dB
7.7	Insertion Loss to Crosstalk Ration (ICR)	Measured at 100 MHz - 6 GHz	-15 dB

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

Test Item 测试项目	Group (测试分组)						
	A	B	C	D	E	F	G
Examination of product	1,9	1	1	1,5	1,5	1,5	1
Low Level Contact Resistance	2,8	2,4	2,4	2,4	2,4	2,4	
Insulation Resistance	3						
Dielectric Withstanding Voltage	4						
Mating/Unmating force	5,7						
Durability	6						
Vibration		3					
Mechanical Shock			3				
Cyclic Temperature & Humidity				3			
Thermal Shock					3		
Temperature Life						3	
Differential Impedance							2
SCD21-SDD21							3
Differential Mode Return Loss (SDD22)							4
Common Mode Return Loss (SCD22)							5
Differential to Common Mode Conversion (SCD21)							6
Differential Insertion Loss							7
Insertion Loss to Crosstalk Ration (ICR)							8
Sample QTY(PCS)	5	5	5	5	5	5	3

The number of group is test sequence 测试分组中的序号为试验顺序.