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1. Scope:

OCuLink is a high speed connector and cable assembly solution that can be used in PCIe Gen3/Gen4, SAS3.0/SAS4.0 and other potential applications. The solution can support wire to board application in system.

OCuLink cable assemblies can be provided with 30AWG~34AWG discrete pairs and flat ribbon cable. The OcuLink connector design is available in straight, right angle, right side-exit and left side-exit plug configurations to mate with board mount connectors.

OCuLink cables are designed for applications in the data center and networking markets that use SAS, PCIe and other signal protocols. OcuLink cables and connectors support many interconnection configurations including backplane to motherboard, backplane to add-in card and card to motherboard

2. Product Application & Features:

Features:

- Small size design: pitch 0.5mm connector.
- Supports 85 ohm impedance applications, 100 ohm is available on request.
- Excellent SI performance: signal rates up to PCIe4 16GT/s and SAS 4.0 24Gbps.
- 30-34AWG cables are available for both discrete and ribbon cable

Product Application:

- Servers and storage devices.
- High performance computing
- Data center & networking equipment

3. Ratings:

Voltage Rating : 30VDC per contact

30mohm max. initial, 15mohm maximum after stress test;

Current : 0.5 A /contact;

Insulation Resistance : 100 MΩ minimum between adjacent terminal;

Withstanding Voltage : 250 VDC minimum for 100 ms ;

Rated durability cycles : 250 cycles MIN

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 deviation from baseline (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 250 V) between adjacent contacts for 100 ms.	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 25±3mm/minutes.	2~20N W/out Latch 8~40N W/Active Latch 10~40N W/Passive Latch
5.2	Unmating Force	(EIA 364-13) Measuring the required force for complete disengagement from the mated connector at 25±3mm/minutes	8~25N



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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 ± 3 mm/minutes along the mating direction by the push-push machine.	250 mating cycles No damage
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5.4	Vibration	(EIA 364-28) test condition VII test condition letter D 15 minutes in each of 3 mutually perpendicular directions.	No damage No discontinuity longer than 1 microsecond allowed 20 milliohms maximum change from initial (baseline) contact resistance
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5.5	Mechanical Shock	EIA-364-27 test condition letter H 3 shocks in each axis (18)	No damage 20 milliohms maximum change from initial (baseline) contact resistance
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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	EIA-364-31 Method III Subject unmated specimens to 10 Cycles (10 days) between 25° and 65° C at 80-100% RH	None



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6.2

**Thermal
Shock**

EIA-364-32 , Method A, test condition I
(-55°C to 80°C), test duration A-3 (100
cycles)

None

6.3

**Temperature
Life**

EIA-364-17, method A (No electrical load),
Test Condition 2 (70°C), test time
condition C, (500hrs)

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-log10 (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-log10 (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.