



Document Number:
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产品规格书

Product Specification

P/N: 818014688

Title : **GEN Z 4C+ Cable**

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1. Scope:

This Product Specification covers the requirement of GEN Z 4C+ cable assemblies on product performance, test methods and quality assurance provisions

2. Product Application & Features:

The GEN Z 4C+ 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 PCIE GEN5 32Gbps.
- Meet Gen Z and SFF-TA-1002 Specification.

3. Ratings:

Voltage Rating:	30 VAC /contact;
Current:	1.1 A /contact;
Insulation Resistance:	1000MegaOhm;
Withstanding Voltage:	500V DC 1 minute ;
Durability:	25 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 10mm/minutes Max.	SFF-TA-1002 102. 5N MAX



5.2	Axial Latch Retention	Pull in direction parallel to insertion, hold for minimum of 60 seconds	50N, no damage
5.3	Durability (preconditioning)	EIA-364-09, perform 5 plug/unplug cycles	No evidence of physical damage
5.4	Durability	EIA-364-30	25 cycles min
5.5	Mechanical Vibration	EIA-364 -28: 5Hz@0.01g ² /Hz 20Hz@0.02g ² /Hz 500Hz@0.02g ² /Hz;Grms=3.1g, 15 minutes in each of 3 mutually perpendicular directions. Before the test, The cable core (GND are not included) be connected in series by the mating test PCB and fixed on test platform. During the test a monitoring current of 80mA DC for each contacts of the series loop to monitor connectivity, should without discontinuity more than 1us, no damage after test.	No damage No discontinuity longer than 1 microsecond allowed 20 milliohms maximum change from initial (baseline) contact resistance
5.6	Mechanical Shock	EIA-364-27, Test Condition A Half-sine shock of 50g, pulses of 11ms duration, 3 shocks in each axis (18 total). The cable core (GND are not included) end to end must be connected become a series circuit by the mating test PCB and fixed on test platform. During the test a monitoring current of DC 100mA maximum for each contacts of the series loop to monitor the connectivity, should without discontinuity more than 1us no damage after test.	No damage 20 milliohms maximum change from initial (baseline) contact resistance
5.7	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 - 20mΩ 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 85 °C, perform 5 cycles in mated condition	Electrical, mechanical and environmental criteria



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6.3	Cyclic Temperature and Humidity	EIA-364-31B, Method III without conditioning, initial measurements, cold shock and vibration. Ramp times should be 0.5 hour and dwell times should be 1.0 hour. Dwell times start when the temperature and humidity have stabilized within specified levels, perform 24 cycles in mated condition.	Electrical, mechanical and environmental criteria
6.4	Temperature Life Temperature Life (preconditioning)	EIA-364-17, Method A (without electrical load) 60°C field temperature. for 5 years Test Temperature and Test Duration per EIA 364-1000 Table 8 90°C/456hour Test Temperature and Test Duration per EIA 364-1000 Table 9 90°C/240hour	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 5.0:

ITEM	PCIE5.0
Rise time	15ps(20%~80%)
SDD21/SD12	IL(dB)= -2.5-0.3125*f(GHz),0<=f(GHz)<=16GHz;(L=1m) IL(dB)= 1.5-0.5625*f(GHz),16<=f(GHz)<=24GHz
SDD11/SDD22	RL(dB)= -20+0.625*(GHz),0<=f(GHz)<=24GHz; iRL(dB)= -25
PSNEXT	PSNEXT(dB)= -55+0.416667*f(GHz),0<=f(GHz)<=24GHz; ccICN= 500uV
PSFEXT	PSNEXT(dB)= -45+0.416667*f(GHz),0<=f(GHz)<=24GHz; ccICN= 400uV
Difference Impedance	Cable 85 Ω +/-10% Connector 85 Ω +/-10%
EIPS(Effective Intra-Pair Skew)	≤4ps
Lane-to-Lane Skew	≤200ps



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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	1	1
Insulation Resistance					2	2	2	
Dielectric withstanding voltage					3	3	3	
Low Level Contact Resistance	2,8	2,6	2,4,6,8	2,5,7	4,7	4,7,9	4,7,9	
Durability(preconditioning)	3			3	5	5	5	
Mating Force	7							
Durabilty Cycles	4			4				
Axial Latch Retention	6	5		6				
Longitudinal Force	5	4	7	9				
Mechanical Shock		3	5	8				
vibration			3					
Temperature Life					6			
Temperature Life (preconditioning)							6	
Thermal Shock						6		
Cyclic Temp and Humidity						8		
Thermal Disturbance							8	
Difference Impedance								2
SDD21/SD12								6
SDD11/SDD22								7
PSNEXT								8
PSFEXT								9
EIPS(Effective Intra-Pair Skew)								10
Lane-to-Lane Skew								11
Sample QTY(PCS)	5	5	5	5	3	3	3	3

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

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