



SPECIFICATION

SPEC. NO: PGZBXX-530X-00X-1H REV: X8

DATE: Apr 10, 2019

PRODUCT NAME: Chogori Vertical 1V/2V/4V/8V Connector

PRODUCT NO: /

立讯精密工业股份有限公司

LUXSHARE-ICT PRECISION INDUSTRIAL CO.,LTD.

中国广东省东莞市清溪镇青皇村青皇工业区葵青路 17 号
No. 17, KuiQing Road, QingHuang Industrial Zone,
QingHuang Village, QingXi Town, DongGuan City,
GuangDong Province, China

TEL: 0086-769-8908-9000

FAX: 0086-769-8908 9971

	APPROVED	CHECKED	PREPARED	DCC ISSUE
Name	Osborn	Hongji	Hongji	

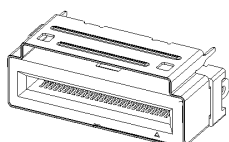
Product Number: see 1.1 content

Product Description : Gen Z Vertical Connector

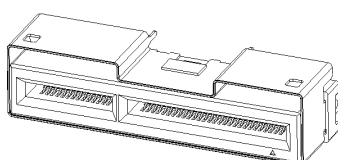
1 SCOPE

1.1 Content

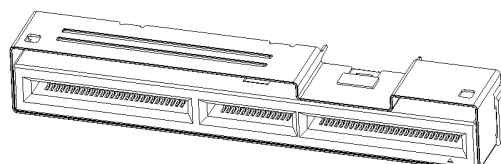
1.1.1 This specification covers performance, tests and quality requirements for



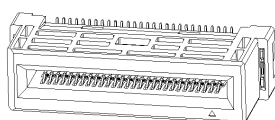
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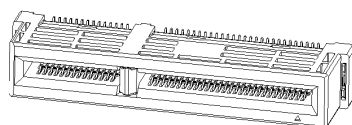
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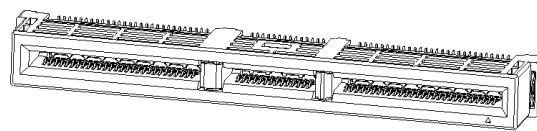
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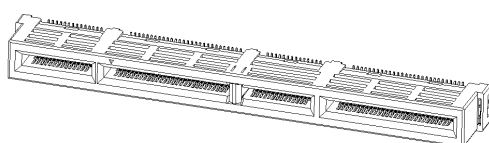


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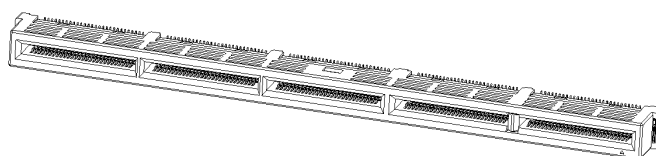


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PGZB56-5301-004-1H



PGZBA6-5300-000-0H / PGZBA6-5300-000-1H



PGZBB8-5300-000-1H

2 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, latest edition of the specification applies. In the event of conflict between requirements of this specification and product drawing, product drawing shall take precedence.

2.1 Commercial standards

- 2.1.1 EIA-364-18, Initial examination of product.
- 2.1.2 EIA-364-18, Final examination of product
- 2.1.3 EIA-364-23, Low Level Contact Resistance (LLCR)
- 2.1.4 EIA-364-21, Insulation resistance
- 2.1.5 EIA-364-20, Withstanding voltage
- 2.1.6 EIA-364-28, Random vibration
- 2.1.7 EIA-364-27, Mechanical shock
- 2.1.8 EIA-364-09, Durability
- 2.1.9 EIA-364-13, Mating force & Unmating force

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- 2.1.10 EIA-364-32, Thermal shock
- 2.1.11 EIA-364-31, Humidity/temperature cycling
- 2.1.12 EIA-364-17, Temperature life
- 2.1.13 EIA-364-65, Mixed flowing gas
- 2.1.14 EIA-364-10, Thermal cycling
- 2.1.15 EIA-364-91, Dust
- 2.1.16 EIA-364-70, Temperature Rise
- 2.1.17 EIA-364-26, Salt Spray
- 2.1.18 EIA-364-1000, Thermal disturbance

3 MECHANIC DIMENSIONS

3.1 Dimensions

See engineering drawing.

3.2 Initial examination of product (EIA-364-18)

Visual and dimensional inspection per product drawing.

Requirement: meets requirements of engineering drawing.

3.3 Final examination of product (EIA-364-18)

Visual inspection.

Requirement: meets visual requirements.

4 REQUIREMENTS

4.1 Design and Construction

4.1.1 Product shall be of design, construction and physical dimensions specified on applicable product drawing.

4.2 Materials and Finish

4.2.1 Housing: thermoplastic, UL94V-0

4.2.2 Inner Housing: thermoplastic, UL94V-0

4.2.3 Insert Molding Housing: thermoplastic, UL94V-0

4.2.4 Terminal: copper alloy, gold plating over nickel on contact area and tin plating over nickel on solder area

4.3 Ratings

4.3.1 Operating temperature : -40°C TO +85°C

4.3.2 Storage temperature : -15°C TO 85°C

Relative humidity: 20% to 80%

Atmospheric pressure: 650mm to 800mm of Hg (86 ~106Kpa)

4.3.3 Voltage: 50 volts AC/DC max.

4.3.4 Current: 1.1 ampere maximum per contact

4.4 Workmanship

Connectors shall be uniform in quality and shall be free from burrs, scratches, cracks, voids, chips, blisters, sharp edges, and other defects that will adversely affect product's life or

serviceability

5 ELECTRICAL CHARACTERISTIC

5.1 Low Level Contact Resistance (EIA-364-23)

Test voltage: 20mV DC Max; Test current: 100 mA Max. All contacts should be measured.

Requirement:

Initial: 30milliohms maximum. ΔR 15 milliohms maximum .

5.2 Insulation resistance (EIA-364-21)

Test voltage: 100V DC. Duration: 1 minute.

Point of Measurement: Between adjacent contacts.

Requirement: 1000 M-ohms minimum.

5.3 Withstanding voltage(EIA-364-20)

Test voltage: 300 volts AC at sea level. Duration: 1 minute.

Point of Measurement: Between adjacent contacts, signal to signal and signal to ground.

Requirement: No evidence of arc-over, insulation breakdown, or excessive leakage current > 0.5 mA.

6 MECHANICAL CHARACTERISTICS

6.1 Connector solder ability (IPC/ECA J-STD-002C, Test S1)

Conditioning: 8 hours $\pm$ 15 minutes steam.

Preheat: 150° to 180°C / 60-120 seconds

Reflow: 230° to 260°C / 30-60 seconds

Requirement: solderable area shall have a minimum of 95% solder coverage.

6.2 Random Vibration(EIA-364-28, Test Condition VII, Level D)

Subject mated specimens to 3.10G's rms between 20 to 500Hz. Fifteen minutes in each of 3 mutually perpendicular planes.

Requirement: No discontinuities of 1 microsecond or longer duration; meets electrical, mechanical and environmental criteria.

Note: Test sample and test fixture should be fixed on test machine in steadily station.

6.3 Mechanical shock(EIA-364-27,Test Condition A)

Subject mated specimens to 50G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.

Requirement: No discontinuities of 1 microsecond or longer duration.

Note: Test sample and test fixture should be fixed on test machine in steadily station.

6.4 Durability(EIA-364-9)

Mating and unmating specimens without shell latches engaged for N cycles at a maximum rate of 100 cycles per hour.

Requirement:

6.4.1 Shall meet visual requirements, show no physical damage.

6.4.2 LLCR: ΔR 15 milliohms maximum .

Table 1

Items	P/N	Durability (cycles)	Mating Force	Unmating Force	Pin
1C shielded	PGZB56-5300-000-1H	50	30.8 N	2.8 N	56
1C unshielded	PGZB56-5300-004-1H	200	30.8 N	2.8 N	56
1C unshielded	PGZB56-5301-004-1H	100	30.8 N	2.8 N	56
2C shielded	PGZB84-5300-000-1H	50	46.2 N	4.2 N	84
2C unshielded	PGZB84-5300-004-1H	200	46.2 N	4.2 N	84
4C shielded	PGZBA4-5300-000-1H	50	77 N	7 N	140
4C unshielded	PGZBA4-5300-004-1H	200	77 N	7 N	140
4C+	PGZBA6-5300-000-0H PGZBA6-5300-000-1H	200	92.4 N	8.4 N	168
8C	PGZBB8-5300-000-1H	50	154 N	14 N	280

6.5 Mating force (EIA-364-13, Method A.)

Measurement: the force to mate cable plug into connector without latch.

Requirement: 1.1 N /pin pair Max

See Table 1

6.6 Unmating force (EIA-364-13, Method A.)

Measurement: the force to unmating plug from connector without latch.

Requirement: 0.1 N /pin pair Min.

See Table 1

7 ENVIRONMENTAL CHARACTERISTICS

7.1 Thermal shock(EIA-364-32, Method A, Test Condition I)

Subject mated specimens to 5 cycles between -55 and 85°C with 30 minutes dwells at temperature extremes and 1 minute transition between temperatures.

Requirements: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

7.2 Humidity/temperature cycling(EIA-364-31, Method III)

Subject mated specimens to 10 cycles between 25 and 65°C at 80 to 95%RH.

Requirement: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

7.3 Temperature life (EIA-364-17, Method A)

Subject mated specimens to 105°C for 250 hours.

Requirement: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

7.4 Mixed flowing gas(EIA-364-65, Class II A)

Subject board mounted specimens to environmental Class II A for 10 days. One-half of the

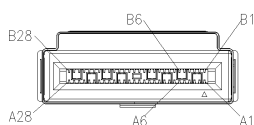
specimens (receptacle only) unmated for 160h followed by 80h mated. Remaining one-half of the specimens mated for 10 days.

Requirements: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

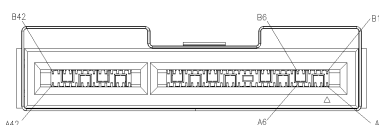
7.5 Temperature rise (EIA-364-70)

The temperature rise above ambient shall not exceed 30°C at any point in the system when contact positions specified are powered at the power levels specified here in.

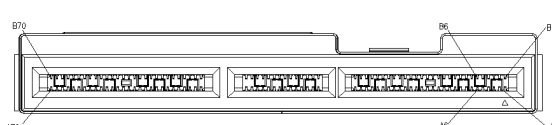
Requirement: Only power pin carry 1.1 A Max. (Power pin: A1~A6, B1~B6, see following pictures)



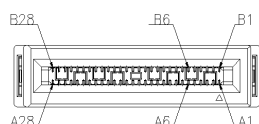
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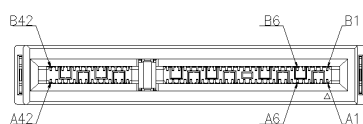
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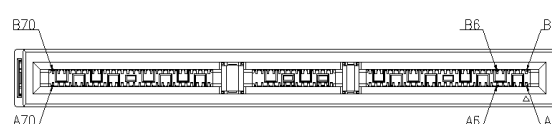
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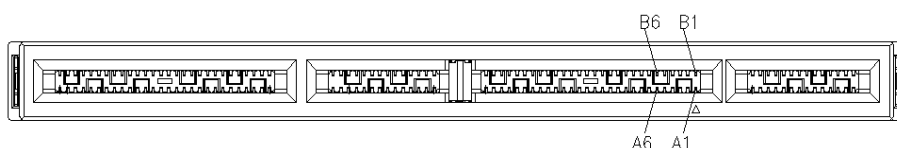


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PGZBB8-5300-000-1H

7.6 Salt Spray (EIA-364-26, Test Condition B)

Subject unmated specimens to 5% NaCl, 48h.

Requirement: All pins' contact surfaces without obvious corrosion.

7.7 Thermal disturbance

Subject mated and board mounted specimens to 10 temperature cycles between 15±3°C and 85±3°C as measured on the part. Ramps shall be minimum of ±2°C per minute with dwell times long enough to ensure contacts reach the temperature extremes (a minimum of 5 minutes). Humidity not controlled.

Requirement: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

7.8 Dust (EIA-364-91)

Expose unmated connectors to dust contamination. Dust composition: #1. Flow rate: 300 meters/minute. Exposure time: 1 hour

Requirement: Shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the product qualification.

8 SECOND LEVEL ASSEMBLY REQUIREMENTS

8.1 Reseating

- a) Need no evidence of physical damage was visibled as a result of 3 reseating cycles.
- b) LLCR and LLCR change should be accord with spec after 3 reseating cycles.

9 QUALIFICATION TESTING SEQUENCES

Table 1

QUALIFICATION TEST										
N o.	Description	Section	Test Group & Sequence							
			1	2	3	4	5	6	7	8
1	Initial examination of product	3.2	1	1	1	1	1	1	1	1
2	Reseating	8	11		9	9				6
3	LLCR	5.1	3, 6, 10, 12	2, 4, 6, 8	2, 4, 6, 8, 10	2, 4, 6, 8, 10		2, 5, 8		2, 4, 7
4	Insulation resistance	5.2					2			
5	Withstanding voltage	5.3					3			
6	Connector solder ability.	6.1							2	
7	Random vibration	6.2		5						
8	Mechanical shock	6.3		7						
9	Mating force	6.5	2, 7							
10	Unmating force	6.6	4, 8							
11	Durability	6.4	5	3	3	3	4	4		3
12	Resistance to reflow soldering heat	6.1								
13	Thermal shock	7.1			5					
14	Humidity/temperature cycling	7.2			7					
15	Temperature life	7.3	9			5				
16	Mixed flowing gas	7.4								5
17	Temperature rise	7.5						3, 6		
18	Salt Spray	7.6					5			
19	Thermal disturbance	7.7				7				
20	Dust	7.8						7(c)		
21	Final examination of product	3.3	13	9	11	11	6	9	3	8

Note:

- (a) 5pcs samples are required in group 1, 2, 3, 4, 5, 6, 7.
- (b) 10pcs samples are required in group 8.
- (c) Precondition specimens with 20 durability cycles with latches engaged.