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		Revised Edition	A3

变更履历:

版本号	变更内容	日期	制订	核准
A0	新版发行	2010/8/28	于小芳	Leo_he
A1	1. 测试项目更新 2.新增变更履历	2021/6/9	罗正辉	Leo_he
A2	1.新增料号 WB0821（H）	2021/7/29	罗正辉	Leo_he
A3	取消 WB0821（H)及修改原材型号	2021/9/16	于小芳	Leo_he

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Approval By	Check By	Originator By
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一. Scope

1.1. CONTENTS

This specification covers the performance, tests and quality requirements for the 0.8 mm pitch wire To board connector series

二. Applicable Documents

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

三.Requirements

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in figure .

3.1. DESIGN AND CONSTRUCTION

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

3.2. MATERIALS

WB0811(H）WB0818(H）WB0820(H）			
NO	**DIMENSIONS**	**MATERIAL**	**PLATING&COLOR**
1	Housing	LCP	UL94V-0
2	PEG	Brass	MATTE TIN or Au PLATING
3	terminal	Phosphor bronze	MATTE TIN or Au PLATING

WB0812(H) /0813(H) WB0814(H)			
NO	**DIMENSIONS**	**MATERIAL**	**PLATING&COLOR**
1	Housing	PA66	UL94V-0
2	terminal	Phosphor bronze	MATTE TIN or Au PLATING

3.3. RATINGS

A. Current Rating: 0.7A AC,DC (P/N:WB0811(H)-XXXXX ; AWG#32)
0.7A AC,DC(P/N:WB0818(H)-XXXXX ; AWG#32)
0.7A AC,DC(P/N:WB0820(H)-XXXXX ; AWG#32)
0.5A AC,DC (P/N:WB0812(H)-XXXXX ; AWG#32)
0.3 A AC,DC (P/N:WB0813(H)-XXXXX ; AWG #34)
0.3 A AC,DC (P/N:WB0814(H)-XXXXX ; AWG #36)

B. Voltage Rating: 30V (AC,DC)

C. Contact Resistance: Initial: 30mΩ max
After environmental: 40mΩmax

D. Insulator Resistance: Initial 100MΩ min
After environmental:100MΩ min

E. Withstanding Voltage: 500v AC for 1 minute

F. Temperature Range: -40℃ ~+85℃

G. Applicable Wire: WB0812(H)-XXXXX AWG #32
WB0813(H)-XXXXX; AWG #34
WB0814(H)-XXXXX; AWG #36

F. Insulation O.D.: WB0812(H)-XXXXX ∮0.38±0.02mm
WB0813(H)-XXXXX; ∮0.32±0.02mm
WB0814(H)-XXXXX; ∮0.24±0.02mm

3.4. PERFORMANCE REQUEIREMENT AND TEST DESCRIPTION

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in figure .

四. TEST REQUIREMENTS AND PROCEDURES SUMMARY

	TEST DESCRIPTION	REQUIREMENTS	PROCEDURES
1	Examination of product	Meet requirements of product drawing	Visual, dimensional and functional Per applicable quality inspection plan
	Electrical Requirement		
2	Contact Resistance (Low Level)	30mΩ Max Initial 40mΩ Max. After environmental	Mated connector, 20 mV Max. Open circuit at 1 mA Max. Wire length:30mmEIA 364-23B
3	Insulation Resistance	100 MΩ Min	500V DC for 1 minute. Test between adjacent circuits and contact.EIA 364-21C
4	Dielectric withstanding Voltage	No Breakdown.	500V AC 1 minute. Test between adjacent circuits and contact.EIA 364-20B
	MECHANICAL REQUIREMENT		
5	Vibration	No discontinuities 1 microsecond Or longer duration. Contact Resistance: 30mΩ Max Initial 40mΩ Max Final	Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planes, passing DC 5mA current during the test. MIL-STD-202, Method 201, ondition A

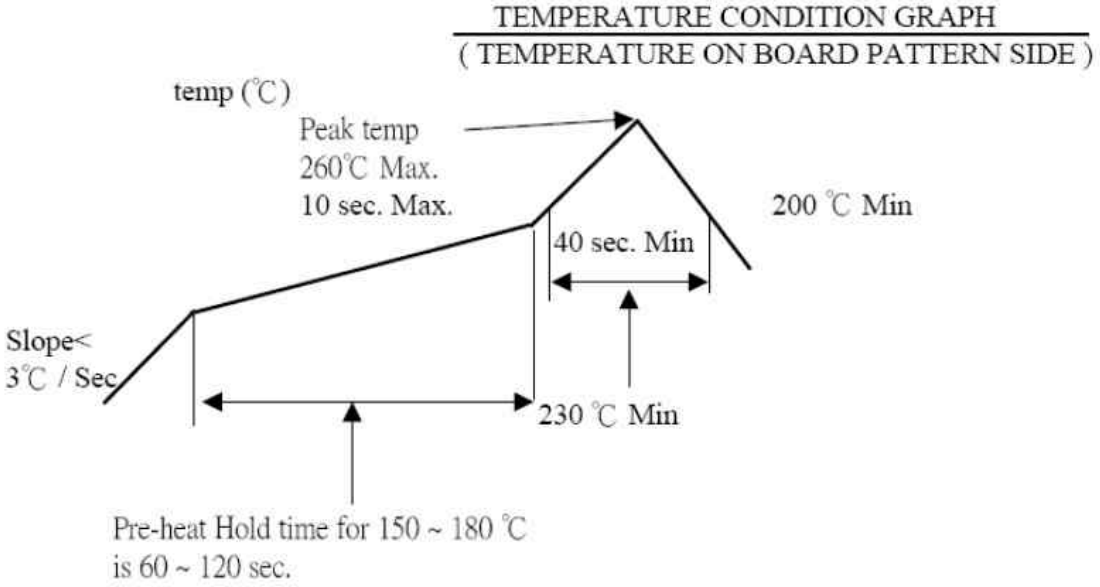
6	Physical shock	Appearance :No damage ; No discontinuities 1 microsecond or longer duration. Contact Resistance: 30mΩ Max Initial 40mΩ Max Final	Accelerated Velocity: 490 m/s2 (50g) waveform: half-sine shock pulse Duration: 11msec. Number of Drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops, passing DC 100m A current during the test. MIL-STD-202, Method 213B, Condition A
7	Durability	Contact Resistance: 30mΩ Max Initial 40mΩ Max Final	Mate and unmate samples for 30 cycles at a speed of 10times/min. EIA-364-09C
8	Insertion And Removal Force	See item 6	Measure the force required to mate and unmate the connector. Speed: 25±3mm/min.Test Method: MIL-STD-134A,
9	Contact Retention Force	0.3kgf min/PIN	A base contact shall be mounted in a wafer and pulled in alignment at a constant speed of 25 mm per minute. The Load to pull the contact out of the wafer shall be measured.

10	Wire Retention Force	Parallel direction: AWG#32 : 0.50 kgf min. AWG#34 #36 :0.35 kgf min. Perpendicular direction: AWG#32 :0.15kg AWG#34 #36 :0.10kgf min	Pulling load shall be applied between a correctly terminated contact and the wire at the constant speed of 25mm per minute. The load to pull the wire out of the contact or break the wire shall be measured. (1~5mm/sec.)
ENVIRONMENTAL:			
11	Temperature Rise	▵ 30℃ Max.	Carrying rated current load.
12	Thermal shock	Appearance: No damage Contact Resistance: 30mΩ Max Initial 40mΩ Max Final	Subject mated samples to 25 cycles between -45℃ and 85℃ MIL-STD-202G, Condition AEIA 364-32C Condition Qualification and Test Sequence Group 8 （After test, recondition under standard atmospheric condition for 2 hours .The contact resistance is not greater than the initial value.）
13	Salt Spray	No evident corrosion. Contact Resistance: 30mΩ Max Initial 40mΩ Max Final Insulation Resistance:100MΩ Min	Subject mated samples. 35℃±2℃, 5+1% Salt condition, AU<1U " 12H AU≥1U "—3U "24H AU≥3U "—5U " 48H SN NI ： 12H Zinc-tin-nickel：24H Nickel plating in stainless steel：24H See Product Qualification and Test Sequence Group 9（After test, recondition understandard atmospheric condition for 2 hours The contact resistance is not greater than the initial value.） EIA 364-26B condition B

14	Humidity	Contact Resistance: 30mΩ Max Initial 40mΩ Max Final Insulation Resistance:100MΩ Min	Mated connectors shall be subjected to the following condition. Temperature: 55℃ Relative humidity: 95% Duration: 48h See Product Qualification and Test Sequence Group 1（After test, recondition under standard atmospheric condition for 2 hours .The contact resistance is not greater than the initial value.） MIL-STD-202 ethod 103B,Condition B
15	Cold Resistance	Contact Resistance: 30mΩ Max Initial 40mΩ Max Final Insulation Resistance: 100MΩ Min.	Mated connector. -40℃±2℃, 48 Hours. After test, recondition under standard atmospheric condition for 2 hours.JIS C0020 See Product Qualification and Test Sequence Group 10（After test, recondition under standard atmospheric condition for 2 hours .The contact resistance is not greater than the initial value.）
16	Temperature Life	Contact Resistance: 30mΩ Max Initial 40mΩ Max Final	Subject mated samples to temperature life at 85℃ for 48 hours.See Product Qualification and Test Sequence Group 11（After test, recondition under standard atmospheric condition for 2 hours .The contact resistance is not greater than the initial value.） EIA 364-17B Condition A

17	Solder-Ability	95% of immersed area must show no voids, pin holes	Soldering time：3+/-0.5 Sec Solder temperature：230+/-5 0.5 mm from Terminal tip and fitting
18	Resistance to Reflow Soldering Heat	Pre Heat：150℃~180℃ 60~120sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max Reflow number cycle：2 times	Second Reflow process must be taken after the Product temperature has down to room condition. See Product Qualification and Test Sequence Group 13

五.REFLOW TEMPERATURE PROFILE



六. INSERTION/WITHDRAWAL FORCE

Number of circuit	At initial		At 30th
	I.F. (max.)kgf	R.F. (min.)kgf	R.F. (min.)kgf
2	1.5	0.2	0.15
3			
4			
5	2.0	0.35	0.25
6			
7			
8			
9			
10			
11	3.0	0.45	0.35
12			
13			
14			
15			
16			
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18			
19			
20			
22			

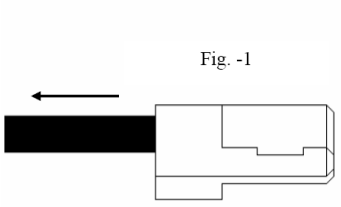

Fig. -1

Parallel Direction

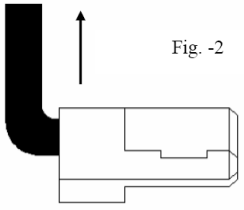

Fig. -2

Perpendicular Direction

UV glue

Note:

If need retention force more, You must use the UV glue.

七. PRODUCT QUALIFICATION AND REQUALIFICATION TEST

Test of Examination	Test Group												
	A	B	C	D	E	F	G	H	I	J	K	M	N
	Test Sequence												
1、Examination of Product	1,9	1,5	1,7	1,3	1,3	1,5	1,5	1,9	1,9	1,9	1,9	1.3	1.3
2、Contact Resistance(Low Level)	2,6	2,4	2,6			2,4	2,4	2,6	2,6	2,6	2,6		
3、Insulation Resistance	3,7							3,7	3,7	3,7	3,7		
4、Dielectric withstanding Voltage	4,8							4,8	4,8	4,8	4,8		
5、Vibration		3											
6、Physical shock						3							
7、Durability			4										
8、Insertion And Removal Force			3,5										
9、Contact Retention Force				2									
10、Wire Retention Force.					2								
11、Temperature Rise							3						
12、Thermal shock								5					
13、Salt Spray									5				
14、Humidity	5												
15、Cold Resistance										5			
16、Temperature Life											5		
17、Solder-Ability												2	
18、Resistance to Reflow Soldering Heat													2

Figure 2

NOTE:（a）Numbers indicate sequence in which tests are performed.

（b）Discontinuities shall not take place in this test group, during tests.

八. TERMINATION DEPTH

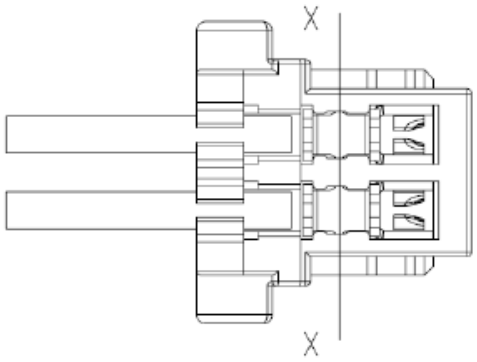

Fig.-1

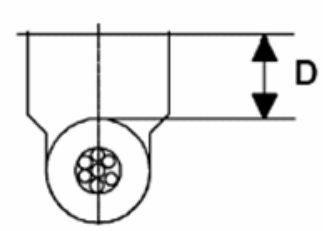

Fig.-2

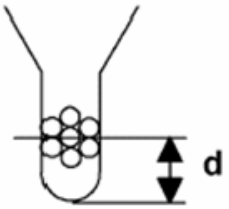

Fig.-3

Measure termination depth dimension “D” in Fig.-2 at X-X part in Fig.-1 where is in then middle part of two U slots and a flattened part pressed by termination punch，and check it satisfies specified value in table

Exact termination depth is measure “d” between bottom of slot and position of center core wire of wire conductors as shown in Fig.-3；Aces specifies termination depth dimension “D” force to facilitate a time-consuming work of measuring “d” as a daily control.

Accordingly, dimension “D” becomes not reference value but control value for the use of the wire to be checked is Aces expect specified wires.

Wire Size	Insulation OD	Termination Depth D	d
AWG#32	Φ0.38±0.02mm	D=0.40±0.03mm	d=0.19±0.03mm

九. TERMINATION APPEARANCE

Inspect the following points after termination.

9.1 Punching flaws on housing caused by termination punch; Housing must be free from flaws. When connector set position deviation, scratches and deformation caused by termination punch may appear at the diagonally shaded areas in Fig.-4.

9.2 Flaws and deformation at beams of contact. Beams must be free from flaws and dimension. When connector set position deviation to wire axis direction, scratches and deformation caused by termination punch may appear at beams of contact as shown in Fig.-5.

In this case, not only contact but also termination die may be damaged

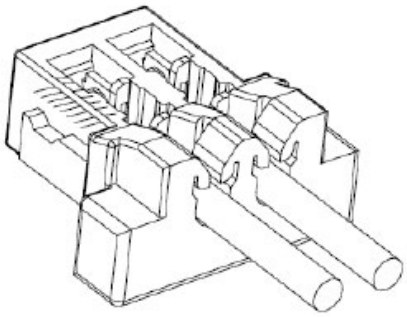

Fig.-4

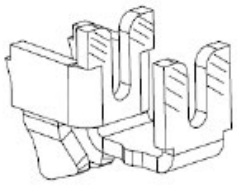

Fig.-5

9.3 Exposure of wire conductors around beams of contact; Wire conductors must not be exposed. When connector set position deviates to wire axis direction, wire conductors may expose in front or back of beams of contact as shown in Fig.-6.

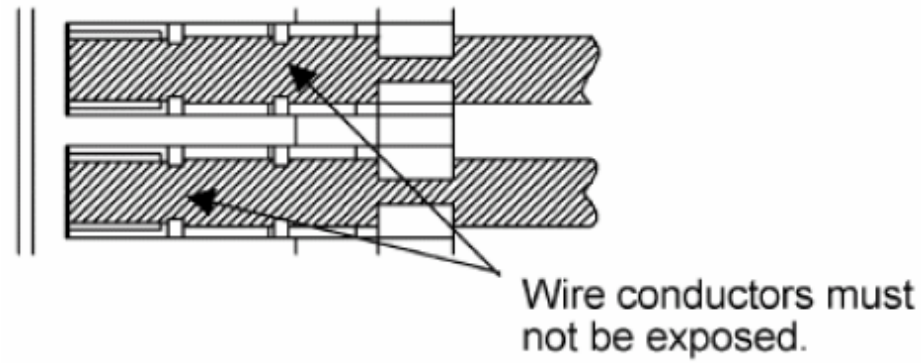

Fig.-6

9.4 Gap between housing wall and wire tip (Wire protruding length) Gap “G” between housing walls and wires tip in Fig.-7 should be 0.2 mm max.

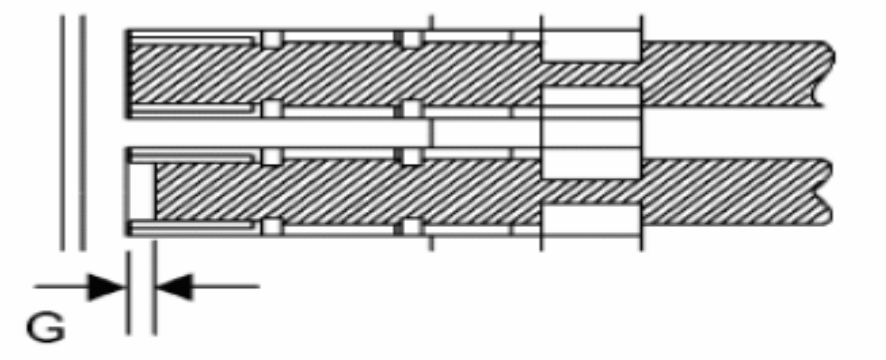

Fig.-7

9.5 Overrun of wire (Wire must not overrun) when wire tension is not adequate, overrun of wire may appear as shown in Fig.-8.

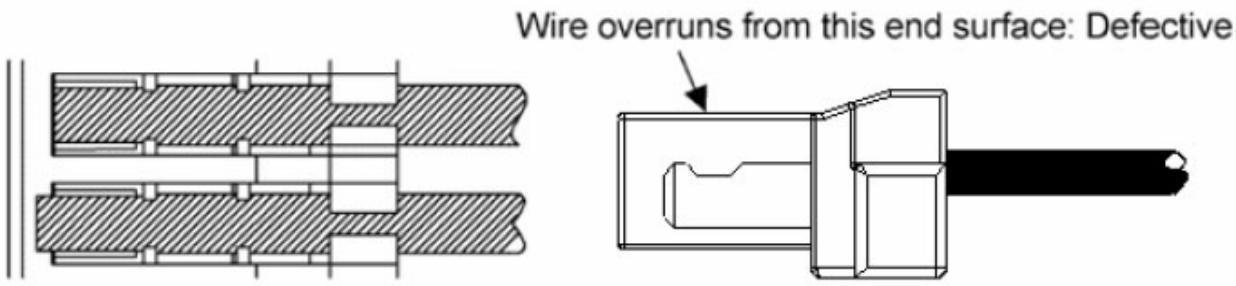

Fig.-8

9.6 Deviation of insulation displacement center (Deviation of insulation displacement center must not happen. When connector set position or wire deviates to pitch direction, termination punch, wire and U slots do not align so that insulation displacement center deviate as shown in Fig.-9 and Fig.-10

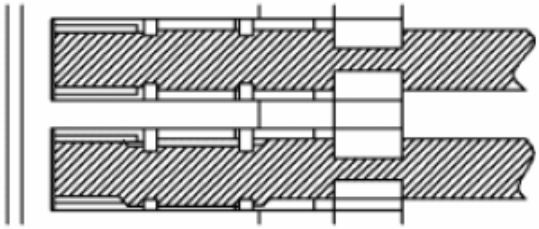

Fig.-9

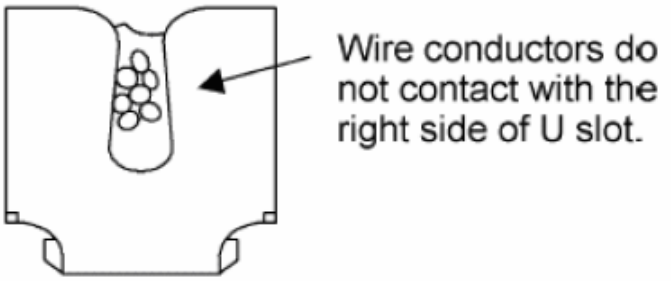

Fig.-10

十. MATING/UNMATING METHOD CONNECTOR

10.1 Mating method of connector

Mated receptacle with header straight on same axis. When the position of mating part of header and receptacle is aligned, align one side of mating part of header with the end of receptacle within 20 degrees to mating axis as shown in Fig.-11.

Do not mate receptacle at the angle of 20 degrees or more, because such handling may cause breakage of connector, etc.

When position of receptacle and header is aligned, hold wires in a bundle in order to prevent applying external force to receptacle. Then, mate receptacle with header up to the back straight against mating axis.

Besides, after mating operation, check that there is no clearance between header and receptacle as shown in Fig.-12, because such clearance may lead discontinuity of connector.

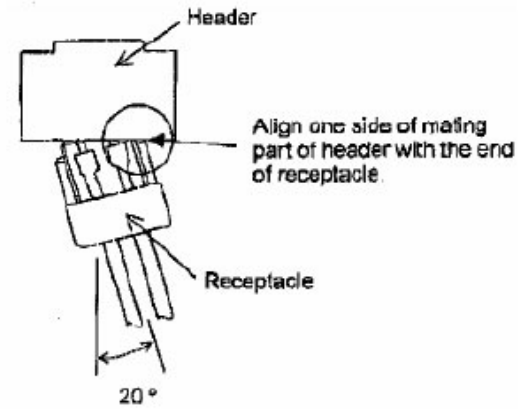

Fig.-11
Align the position (Side entry type)

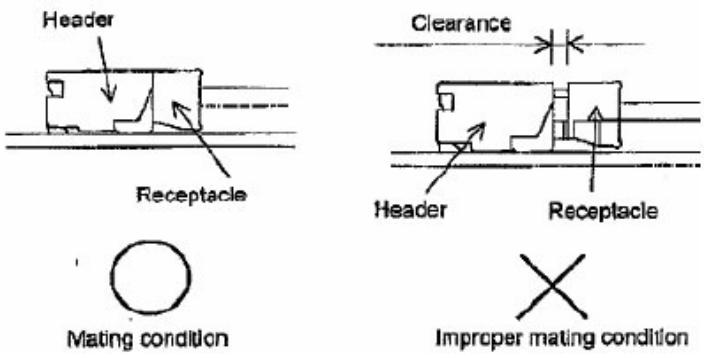

Fig.-12
Mating condition (Side entry type)

10.2 Unmating method of connector

Hold wires in a bundle and unmate receptacle from header on the same axis.
At this time, conduct operation within 20 degrees to mating axis.
Do not unmate receptacle forcibly with prying more than 20 degrees, because such handing may cause breakage of connector, etc.
If receptacle is unmated with holding wire of only one end, such handling is the same as prying connector.
Beside, there is a possibility that wire may come off housing when they are unmated without holding in a bundle.
Even when all wires cannot be held in routing of wires, wire more than the number shown in the Table-1 should be held and unmated.

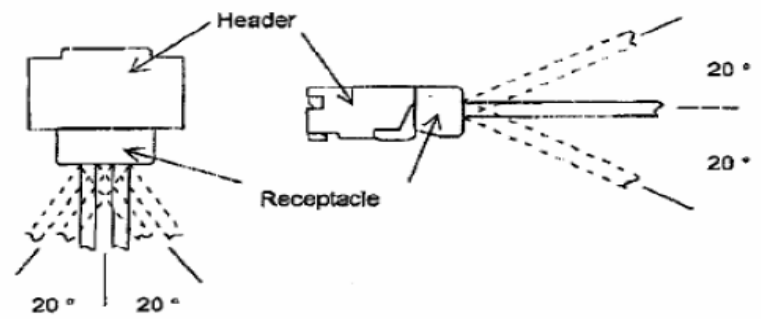

Fig.-13

CKTS	Wires
2	hold 2 wires without fail
3~5	hold more than 3 wires
6~10	hold more than 4 wires
11~15	hold more than 5wires
16~20	hold more than 6 wires

10.3 Routing of wire

In routing wire, careful operation is required so that tension more than 1N may not be applied per connector and one wire (one circuit).