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变更履历：

版本号	变更内容	日期	制订	核准
A0	新版发行	2019/11/16	于小芳	Leo_he
A1	增加 WB4206-XXXXX 及变更履历	2021/9/15	于小芳	Leo_he
A2	取消 4204 和 4206 料号 统一编号	2021/11/02	于小芳	Leo_he

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Approval By	Check By	Originator By
Shen Zhi Jin	**He FuNing**	**Yuxiaofang**

1. SCOPE:

This Specification Covers the MX4.20mm Pitch Series Connector Specification

2. Applicable documents

The following 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.

3. Disposal of Material and surface

Specification	Materials	Disposal of Surface
Housing	Nylon 66	UL 94V-2 & UL 94V-0
Terminal	Brass	Tin Plated & Gold-Flash

4. Ratings and applicable wires

【Item 】	【Standard 】	
Rated Voltage (Max.)	600V	AC/DC
Rated Current (Max.)	7A	
Ambient temperature Range	-25℃~+85℃	
Applicable wire insulation O.D	∮3.1mm MAX;(AWG#16~#24)	

5. PERFORMANCE

5-1. Electrical Performance.

【Item】		【Test Condition】	【Requirement】
5-1-1	Contact Resistance	A maximum voltage of 20mV and a maximum current of 100mA are applied to the mate connector.	Contact Resistance: 20 milliohms Max.
5-1-2	Insulation Resistance	Apply 500V D/C for 1 minute between adjacent contacts to measure the insulation resistance.	Insulation Resistance: Initial 1000megohms Min
5-1-3	Dielectric Strength	Apply 1500V A/C (rms) for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent terminal and ground of the mate connectors.	No Breakdown and Flashover;

5-2. Mechanical Performance.

【Item】		【Test Condition】	【Requirement】
5-2-1	Insertion & Retention Force	Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.	Refer to paragraph 6
	Pin Retention	Apply axial push force at the speed rate	9.8N {1.0kgf} min.

5-2-2	Force	of 25.4±3mm/minute.	

5-3. Environmental Performance and Others.

【Item】		【Test Condition】	【Requirement】
5-3-1	Durability	Mate Connectors up 30 Cycles at a Maximun rate of 10 cycles Per minute prior to environmental test	(After the test) Contact resistance ： 40 milliohms Max.
5-3-2	Temperature Rise	Mate connector.measure the temperature rise of contact when the maximum rated current is passed	Mate connectors Temperature Rise: 30℃/Max.
		A mated connector shall be mounted on a printed Circuit board and subjected to a	Appearance：No Damage

5-3-3	Vibration	vibration test of the followingconditions.During the test, test current continuity shall be checked. After the test, contact resistance shall be measured.Frequency: 10~55~10 Hz/minute.Amplitude : 1.5 mm P-PDirection: 1. Axis of up and down. 2. Axis of right the left. 3. Axis of front and back.Period: 2 hours for eachdirection.	Contact Resistance： 40 milliohms Max. Current Discontinuity: 1 micro second Max.
5-3-4	Shock	490m/s2{50G}, 6 strokes in each X.Y.Z. axes.	Appearance：No Damage Contact Resistance： 40 milliohms Max. Current Discontinuity: 1 micro second Max.
5-3-5	Cold Resistance	Mate connectors: Duration: 96 hours; Temperature: -25±3° C	Appearance：No Damage Contact Resistance： 40 milliohms Max.
		A mated connector shall be placed in a humidity chamber of the following	Appearance：No Damage

5-3-6	Humidity	conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. Temperature : 40±2℃. Relative Humidity： 90%~95% (RH). Period：96 hours continuously.	Contact Resistance： 40 milliohms Max. Insulation Resistance: 500 Megohms Min. Dielectric Strength: No Breakdown and Flashover;
5-3-7	Thermal Shock	A mated connector shall be subjected to a thermal shock test of the following conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. One Cycle Consists Of: -55±3℃ for 30 minutes. → Room Temp.5 minutes 85±3℃ for 30 minutes. → Room Temp.5 minutes Total Cycles: 5 Cycles.	Appearance：No Damage Contact Resistance： 40 milliohms Max. Insulation Resistance: 500 Megohms Min. Dielectric Strength: No Breakdown and Flashover;
5-3-8	Thermal Aging	A mated connector shall be placed in a heat oven of the following conditions. After the test, contact resistance shall be measured.	Appearance：No Damage

		Temperature：85±2℃Period ：96 hours continuously.	Contact Resistance： 40 milliohms Max.
5-3-9	Salt Spray	24±1 hours exposure to a saltspray from the 5 ±1% solution at 35±2℃.	Appearance：No Damage
			Contact Resistance： 40 milliohms Max.
5-3-10	Solder Ability	Fluxed soldering section of header shall be dipped in solder of the following conditions. Soldering Time: 3 ±0.5second. Solder Temperature: 245±5℃.	Solder entirely：95% of immersed area must show no voids, pin holes.
5-3-11	Resistance To Soldering Heat	Wave soldering tin soldering process Soldering time:5±0.5sec Soldering pot:255±5℃. Anual soldering tin process Soldering time:3±0.5sec Soldering pot:305±5℃. Method：1.5mm From Square Pin or Contact Tip	Appearance： No deformation or damage.

6. Insertion Force (I.F.) & Withdrawal Force (W.F.)] Unit：Kg/f

No. Of Circuits	First Insertion	30th Withdrawal	No. Of Circuits	First Insertion	30th Withdrawal
	I.F. (MAX)	W.F. (MIN)		I.F. (MAX)	W.F. (MIN)

1x02	3.00	0.10	1x05	6.00	0.40
1x03	4.00	0.20	1x06	7.00	0.50
1x04	5.00	0.30			
（Double Row）					
2x01	3.00	0.15	2x07	15.00	1.05
2x02	5.00	0.30	2x08	17.00	1.20
2x03	7.00	0.45	2x09	19.00	1.35
2x04	9.00	0.60	2x10	21.00	1.50
2x05	11.00	0.75	2x11	23.00	1.65
2x06	13.00	0.90	2x12	25.00	1.80

7. 【Test Group】

NOTE：Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

7.1. PRODUCT QUALIFICATION AND REQUALIFICATION TEST

	Test Group												
Test of Examination	A	B	C	D	E	F	G	H	I	J	K	L	M
Test of Examination	Test Sequence												
Examination of Product	1,10	1,5	1,7	1,3	1,3	1,5	1,3	1,5	1,5	1,6	1,6	1,5	1,5
Low Level Contact Resistance	2,7	2,4	2,6			2,4		2,4	2,4	2,5	2,5	2,4	2,4
Dielectric Withstanding Voltage	3,8												
Insulation Resistance	4,9												
Temperature Rise		3											
Insertion Force			3										
Extraction Force			4										
Durability			5										
Pin Retention Force							2						
Vibration	6												
Shock	5												
Cold Resistance									3				
Humidity										4			
Thermal Shock										3			

Thermal Aging											4		
Salt Spray											3		
Solder Ability												3	
Resistance to Soldering Heat													3
Sample Size	5	5	5	5	5	5	5	5	5	5	5	5	5

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

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