PRODUCT SPECIFICATION

PRODUCT SERIES NAME： A2010 SERIES | PAGE： 1/6

Index

1. Scope

2. Part name & part numbers

3. Construction. dimensions. material & surface finish

4. Ratings & applicable wires

5. Conditions

6. Performance

- 6.1 Electrical performance
- 6.2 Mechanical performance
- 6.3 Environmental performance and others

			APPROVED BY	CHECKED BY	WRITTEN BY
			Jack Yin	*Diankui Wan*	*Xi Chen*
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PRODUCT SPECIFICATION

PRODUCT SERIES NAME： A2010 SERIES

1.SCOPE:

This specification covers the product performance requirements of the 2.00 mm spacing line-to-plate connector series.

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2010HD
Terminal	A2010-T-D
Wafer	A2010WVC-S/WRC-S

3. CONSTRUCTION. DIMENSIONS . MATERIAL & SURFACE FINISH

Construction and dimensions shall be in accordance with the referenced drawings.
Material and surface finish shall be as specified below.

Part name		Material	Surface finish
Housing		PBT	UL94V-0
Terminal		Phosphor bronze	Tin over Nickel/Gold over Nickel
Wafer	Post	Brass	Phorphos bronze/Matte Tin over Nicke
	Body	Nylon 9T	UL94V-0

4. RATINGS & APPLICABLE WIRES

<table>
<tr><td>Item</td><td colspan="3">Standard</td></tr>
<tr><td>Rated Voltage (Max.)</td><td colspan="2">125V AC DC</td><td rowspan="9">Insulation O.D.
1.50mm Max.</td></tr>
<tr><td rowspan="8">Rated Current (Max.)
and Applicable Wires</td><td rowspan="2">No.of
circuits</td><td>Wire size (AWG)</td></tr>
<tr><td>#22</td></tr>
<tr><td>1</td><td>6.0</td></tr>
<tr><td>2~3</td><td>5.5</td></tr>
<tr><td>4~5</td><td>5.0</td></tr>
<tr><td>6~8</td><td>4.5</td></tr>
<tr><td>9~10</td><td>4.0</td></tr>
<tr><td>11~15</td><td>3.0</td></tr>
<tr><td>Ambient Temperature Range</td><td colspan="3">-40℃~125℃*</td></tr>
</table>

Note: Do not branch in parallel current which exceeds the rated current

*: Including terMinal temperature rise

PRODUCT SPECIFICATION

PRODUCT SERIES NAME： A2010 SERIES | PAGE ： 3/6

5. CONDITIONS：

The conditions shall be in accordance with the referenced data of next table.

Number	Item	Requirement
(1)	Bend up	4°Max.
	Bend down	3°Max.
	Twisting	3°Max.
	Rolling	4°Max.
(2)	Bell mouth (flare)	0.05-0.35 mm
(3)	Cut-off tab length	0.15 mm Max.
(4)	Extruded wire length	0-0.50 mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
(6)	Wire strip length	1.30-1.80 mm ref.

After crimping， the crimped areas [(5)、(6)] should be as follows.

Wire Size (AWG)	Terminal Part Number	Conductor(mm)		Insulation(mm)		Crimp Strength (kgf)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
#22	A2010-T-D	1.20±0.05	0.73~0.78	1.55(Max)	1.50±0.05	6.00(Min.)

The crimp width at the conductor part & crimp height at the insulation part is a reference value, so adjust it according to a wire to be used。

PRODUCT SPECIFICATION

6. PERFORMANCE

6.1 ELECTRICAL PERFORMANCE

Test Description		Procedure	Requirement
6-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV Max. 10mA.	10mΩ Max.
6-1-2	Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground.	100MΩ Min.
6-1-3	Dielectric Withstanding Voltage	Mate connectors, apply 1000V AC (rms) for 1 minute between adjacent terminal or ground.	No Breakdown and Flashover

6.2 MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
6-2-1	Insertion & Withdrawal Force	Insert and withdraw connectors at the speed rate of 25 ± 3mm/minute.		(Per Pin) Insertion Force: 1.20kgf Max. Withdrawal Force: 0.18kgf Min.
6-2-2	Crimping Pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25 ± 3mm/minute.	AWG #22	6.0kgf Min.
6-2-3	Locking Strength	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		2P, 3P : 2.0 Kgf Min Above 4P : 4.0 Kgf Min
6-2-3	Crimp Terminal Insertion Force	Insert the crimped terminal into the housing. Testing speed: 25 ± 3mm/minute.		1.5kgf Max.
6-2-4	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		5.1kgf Min.
6-2-5	Header Terminal Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		1.0kgf Min.

6-2-6	Durability	When mated up to 30 cycles by therate of 10 cycles per minute	Contact Resistance	20mΩ Max.
6-2-7	Vibration	Amplitude: 1.52mm P-P Sweep time: 10-55-10 Hz in 1 minute Duration: 2 hours in each X.Y.Z. axes (Based upon MIL-STD-202 Method 201A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Discontinuity	1μsec. Max.
6-2-8	Mechanical Shock	490m/s² {50G}, 3 strokes in each X.Y.Z. axes. (Based upon JIS C0041/MIL-STD- 202 Method 213B Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Discontinuity	1μsec. Max.

6.3 ENVIRONMENTAL PERFORMANCE AND OTHERS

Test Description		Procedure		Requirement
6-3-1	Temperature Rise	Carrying rated current load.	Temperature Rise	30°C Max.
6-3-2	Heat Resistance	105 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-3	Cold Resistance	-40 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	20mΩ Max.

PRODUCT SPECIFICATION

6-3-4	Temperature Cycling	5 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-5	Humidity	Temperature: 40 ± 2°C Relative Humidity: 90 ~ 95% Duration: 96 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Insulation Resistance	10MΩ Min.
			Dielectric Withstanding Voltage	Must meet 6-1-3
6-3-6	Salt Spray	24 hours exposure to a salt spray from the 5 % solution at 35 ± 2°C. (Based upon JIS C0023/MIL-STD- 202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-7	Solderability	Soldering Time: 3~5 sec. Solder Temperature: 240 ± 5℃	Solder Wetting	95% of immersed area must show no voids, pin holes
6-3-8	Resistance to Soldering Heat	Normal materials Soldering Time:3~5 sec. Solder Temperature: 250± 5°C High temperature resistant materials Soldering Time:3~5 sec. Solder Temperature: 260 ± 5°C	Appearance	No Damage